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EDITORIAL COMMENT.

SCOPOLAMINE.

In a paper recently read before the Medical Society of the State of Pennsylvania, Dr. John V. Shoemaker discusses scopolamine and calls attention to the danger attending its use in large doses. This drug is said to be identical with hyoscine, and the commercial article contains an admixture of "atroscine" which is isomeric with hyoscine or scopolamine. This latter fact may explain variations in the action of the commercial scopolamine hydrobromide, depending upon the quantity of atroscine present. As a mydriatic scopolamine resembles atropine, but upon the circulatory and nervous systems its effects are quite different. "Scopolamine does not affect the respiration, except in large doses, which produce the Cheyne-Stokes type. Small doses slightly increase the blood pressure, but large doses decrease it. The heart's action is made slower, owing to a sedative action upon the cardio-motor apparatus. Cerebral activity is diminished and the electrical excitability of the brain is reduced. Narcosis and coma are produced by full doses. Motor reflex paralysis indicates a marked depression of the spinal cord, and there is consequent profound relaxation of the voluntary muscular system." Two drops of a 1% sol. instilled for mydriasis in to the eyes of an adult produced complete muscular relaxation and loss of consciousness which lasted for four hours. This was followed by delirium lasting two hours, and then sleep for an hour and a half. There were no subsequent ill effects. It is contraindicated in the young and the old,—in nephritis, scarlatina and diphtheria, and heart disease. The antidotes are "the diffusible stimulants, as nitroglycerine, strychnine and caffeine, artificial respiration, the administration of oxygen by inhalation, hot external applications, friction of the skin, and electricity." Morphine is synergistic. Karff recommends giving scopolamine gr 1-640 and morphine gr. 2/5 in three doses, the first to be given 2½ hours, the second 1½ hours, and the third ½ hour before the operation. When used preliminary to chloroform or ether it reduces the excitement accompanying the administration of these drugs, and lessens the tendency to vomit. Dr. Shoemaker justly remarks that there is no such thing as a perfectly safe anaesthetic, and warns against the large doses used in this country, where surgeons give scopolamine gr. 1/64 with morphine gr. 1/6 at intervals of an hour. In view of the uncertain composition of the commercial drug, and personal idiosyncrasy, such doses may be very dangerous.

THE DISPENSARY AND PATENT MEDICINES.

The work of the State Dispensary in exposing the composition and limiting the sales of certain patent medicines which contain a very large percentage of alcohol should receive the hearty support of the whole medical profession. We have never been in favor of the Dispensary,

but candor forces us to give the devil his due and to acknowledge a feeling of gratitude for the crusade against this class of fraudulent and dangerous preparations. The recent order has not met with the universal approbation of the lay press, but the fraud perpetrated by such widely advertised and generally used "medicines" as those in question is not generally appreciated, nor is the danger of using alcohol in disguise well understood. That the prolonged use of such nostrums may produce a state of chronic alcoholism in the most innocent and unsuspecting is not imagination, it is fact. Samuel Hopkins Adams, writing in Colliers Weekly, Oct. 28th, says that Peruna, which may be taken as a type of its class, contains less than one-half of one per cent. of drugs, and these of slight potency, the rest is alcohol and water. The cost of manufacturing this elixir of life is about eight and a half cents a bottle, including bottling and labelling; the rest of the dollar paid by the consumer is profit. Hostetter's Bitters, Lydia Pinkham's Compound, Hood's Sarsaparilla and Ayer's Sarsaparilla are other well known compounds which fall into the same category, containing from 18% to 40% of alcohol. The order forbidding the sale of these nostrums save on a physician's prescription places the power of control, in a measure at least in their hands, and we feel confident that not many will be found to betray the honor of their calling. But how about the druggists? How many of them will have the moral courage shown by a country merchant of our acquaintance, who discontinued the sale of Peruna because he discovered by accident that it was an intoxicating beverage? Have pharmacists a lower standard of honor than physicians? It remains to be seen.

At the last annual meeting of the State Association resolutions were passed by the House of Delegates providing for the appointment of committees on tuberculosis and pharmacy. If these committees have been appointed, we have not heard of it. Time is passing.

"Medicine is the noblest of professions; the meanest of trades. Unless you can live lives of purity, of virtue, of honor, and of honesty, seek a livelihood elsewhere, and insult not the gods by striving through base methods and ignoble ambitions to resemble them."—*Gaillard Thomas.*

ORIGINAL ARTICLES.

SURGERY OF THE KIDNEY.

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It is probably true that as early as 1670 Zambeccarius, and two years later Roonhuysen had proved by experiments on animals under the best circumstances that one kidney could perform the function of elimination after its fellow had been removed. Before Feb., 1880, (the date of the first nephro-liphotomy), besides G. Simon's incomplete work, not more than a score of articles on renal surgery had been written,—these chiefly on nephrectomy. In 1879 Tait removed a pyosalpinx for the first time, as well as doing his first cholecystotomy. His first operation for primary ruptured tubal pregnancy was done at about the same time. At this time Kimball, Dunlop, Peaslee, Thomas, Thornton and Spencer Wells were doing a large amount of work in operating for such large ovarian cysts as are rarely seen at present. In the course of fifteen years thousands of abdominal sections had been made.

It was probably the work of these abdominal surgeons that led up to the development and progress of the surgery of the kidneys and ureters. A most complete and interesting account of the history and progress of the surgery of the kidneys and the ureters is given by Dr. J. Wesley Bovée in his address as President of the Southern Surgical and Gynecological Association, 1903. With the advent of antisepsis and asepsis in 1880, and from that time forward the surgery of the kidneys and ureters has rapidly developed. Investigators become chiefly engaged in the study of surgical technique, with the idea of the prevention of septic invasion. Czerny, by doing a re-section of the kidney for an angio-sarcoma fol-

lowing an injury, in 1887, materially advanced the conservative surgery of these structures. In 1881 Hahn was doing nephrorrhaphy for movable kidney, an operation which now has been done thousands of times. In 1888 Bozeman, of New York, succeeded in catheterizing a ureter through a vesico-vaginal fistula, and flushing out a pyonephrotic kidney. Grunfeld's speculum and mode of catheterization, it has been suggested, was the origin of Dr. Kelly's method and instruments, and Pawlick has made objections to Kelly's claim of originality. Dr. Bovée of Washington, has made valuable contributions to the surgery of the Kidneys, and to conservative surgery of the ureters. Dr. Dougal Bissell, of New York, has devised and successfully performed a most ingenious operation for transplanting the ureters in the bladder wall. However, as the scope of this paper does not admit of a discussion of the surgery of the ureters, and was designed to deal with the conservative surgery of the kidney, I trust you will pardon my wandering.

In 1880, Henry Morris planned and successfully performed nephrotomy for renal calculus, since which time the operation has been found to have a wide field of usefulness, in other lesions of the kidney. But until the last quarter of a century nephrotomy was performed only for the evacuation of pus. At the present time nephrotomy is performed in several different classes of cases. As an exploratory operation when the kidney is neither suppurating nor sacculated, nor distended; when the kidney is in a state of sacculation or suppuration or both; when there is distension or pyelitis; in cases of enlargement of the kidney, in some other way than by nephrectasis; to give exit to urine and allow of search for a culculus in obstructive anuria. The simple division of the capsule, with or without the removal of a portion of the cortex of the kidney, for the relief of great renal pain due to mechanical congestion inflammatory hyperaemia, or subscapula extravasation of blood. Nephrotomy is a safe operation with a mortality much lower than nephrectomy. When a kidney has been destroyed beyond functional activity nephrectomy is the only operation, except in those cases where the kidney is sacculated and distended with pus, having extensive and strong adhesions, the separation of which would necessitate an opening into the general peritoneal cavity. Here the preferable operation is a lumbar incision and evacuation of the pus, followed by the suturing of the shell of the kidney to the margins of the lumbar incisions, and drainage of the cavity. In properly selected cases following nephrectomy the functional activity of the remaining kidney will be markedly increased, assuming the double duty which it is called upon to perform with satisfaction and comfort. Examples of this I have had under observation for several years. It is not, however, true, that when a kidney, with a portion remaining which is still partially performing its excretory functions, or in one which is temporarily impaired by an acute inflammation or an obstruction of a stone in its substance, in the pelvis of the kidney or its ureter. If such a kidney is removed the remaining kidney will usually not assume the work of the two, as in cases where its fellow has been entirely destroyed and its remains removed. But it will soon become insufficient, diseased, and will perish. Again, it is not possible to determine to what extent the kidney which is to remain is already diseased. A kidney and a half, or a quarter, is better than one kidney. Except in very fleshy subjects the kidney is easily reached through a lumbar incision, and with care and safety its entire surface can be examined. In cases with peri-nephritic inflammation and a fibrous capsule thickened and densely adherent, the capsule should be divided from one end of the kidney to the other to relieve the tension and the capsule peeled away from the parenchyma of the kidney, and all the thickened portion cut away. Free incisions into the kidney substance for an examination of its interior down to the pelvis can be made almost with equal safety. Search for a stone in the kidney

or its pelvis can be thoroughly made. From such an incision cavities in the kidney can be safely drained, diseased portions and cicatrices removed. Conservative surgery has here one of its widest fields of usefulness. Hemorrhage from an incision into the kidney may at first be alarming, but it will soon stop, or can be easily controlled either by packing and drainage or sutures, and healing is rapid. Nephrotomy is not attended generally by shock, and the results are almost universally gratifying. Due to the uncertainty of the diagnosis if stone in the kidney, nephrotomy has not impressed surgeons with the same confidence in the operation which belongs to operations upon the gall-bladder. The X-ray has proved a valuable aid to the diagnosis of stone in the kidney, however repeated failures to discover the stone by X-ray examination does not in all cases contra-indicate an exploratory nephrotomy. An operation upon the kidney, in which it is expected to find a stone should not be considered a failure, when the symptoms cover those which belong to a stone, if a stone is not found. If the changes in the kidney are sufficient to give symptoms simulating those of the stone, capsule splitting and a section of the kidney will doubtless relieve many cases, the symptoms of which closely resemble those of a stone, but because of the uncertainty of a diagnosis are not subjected to an exploratory operation. Pain of stone may be simulated by any gross pathologic lesion of the kidney or ureter, such as tuberculosis, a tumor, hydro nephrosis, etc., while ordinarily renal colic is associated with intra renal retention from obstructed outflow. In certain chronic affections of the kidney with acute exacerbations the distention of a resisting capsule from within may be and often does give rise to a typical renal colic.

I will not here give in detail the symptoms which are present in stone in the kidney, nor of other lesions of the kidney with simptoms which simulate those of stone. Reference can be made to the volumes on Surgical Diseases of the kidneys and Ureters by Henry Morris, where a most complete account is given.

Reference to the clinical record of a case with stone in the pelvis of the kidney causing obstructive anuria and great renal distension, which came under my care for treatment will serve to illustrate.

A white woman, visiting our city from Washington, D. C., was seized with a severe attack of lumbago, which was a recurrence of several previous and similar attacks. The patient showed evidence of intense suffering, with the surface of the body moist and cold. Temperature elevated to 102 degs., with a weak and rapid pulse. Pain was referred to the back and right loin, passing forward into the groin. Palpation of the right side was impossible on account of extreme tenderness. This condition continued more or less for three days, when her symptoms subsided. A specimen of urine was obtained, and examination of this found it to be acid, with a trace of albumen, and rather high specific gravity. Microscopical examination found some kidney epithelium, a few blood corpuscles, pus cells in abundance. After the pain subsided a large and tender kidney could be palpated. I gave an opinion of stone in the kidney and advised operation. This was refused, but only two more attacks similar to the one in which I first saw her were required to gain her consent to operation.

Operation was made by the lumbar incision, the fatty capsule was firm and indurated with strong adhesion to the surface of the kidney. These caused some difficulty and delay in separation. The kidney was approximately twice as large as normal. The surfaces were smooth, except along the convex border, which was irregular with nodular masses of cicatrix. The whole kidney was extremely tense. A tumor consisting of the upper dilated portion of the ureter and pelvis of the kidney, in size about that of a hen's egg, was found filled with fluid. Protecting the surroundings with gauze, this tumor was aspirated, and the fluid, which was urine, was drawn off. A free incision was then made into the dilated

ureter, and an irregular stone about the size of the end of the thumb was removed. A quantity of semi-solid material, which had not consolidated into a stone was also removed. A sound was then passed from the kidney end through the ureter down to the bladder to determine any further obstruction which might exist. None was found. This cavity was then thoroughly irrigated, and the ureter washed out from the upper end down to the bladder. The incision in the ureter was then closed with cat-gut suture. Returning to the kidney, the fibrous capsule was incised and slit from one end of the kidney to the other, along the convex border. The fibrous capsule was enormously thickened, and firmly adherent to the surface of the kidney. It was with some difficulty peeled away from the kidney, leaving the kidney bare of capsule for about three-fourths of its surface on either side of the convex border, and from end to end. All the reflected portion of the capsule was then trimmed away with scissors. A free incision was made into the kidney to one side of the convex border, and deep into its substance, through what appeared to be healthy tissue. The interior of the kidney was thoroughly explored with the finger. A similar incision was made on the opposite side, extending from one end to the other, thus removing a large wedge of kidney substance, which appeared to include all the diseased portion. Bleeding was rather free, but was readily controlled by sutures, which approximated the cut surfaces of the kidney. A gauze packing and drain were placed on the surface of the kidney, and brought out at the lower end of the wound. The incision through the muscles was closed throughout over the kidney. The urine was bloody for a few days, but rapidly increased in quantity. The case made a rapid and very satisfactory recovery.

A PLEA FOR A SIMPLER MATERIA MEDICA AND MORE RATIONAL MEDICATION.*

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In selecting this subject for my paper I feel that I have taken a position which places me on the defensive, in that what I will advocate are in my opinion advances in the line of Materia Medica and Therapeutics. Practically all advances of every kind as a rule are recognized by the few who are termed cranks by those who do not recognize the virtue of the thing advocated, whatever it may be. Knowing that such is the case, and that it is but human for us to consider the "other man" cranky, if he brings forward anything radically different to what we think, I, feeling absolutely certain that my position in this matter is the correct one, am perfectly willing that you think anything that you care to in regard to me and what I will advocate, for, in time, these things are as certain to prevail as day is to follow night. I believe that our Materia Medica is needlessly bulky, that not only is it needlessly bulky, but that in many cases it is absolutely harmful to the medical student and the young practitioner. To come to my subject proper, I make the claim that it is our duty as physicians to use the active principles of the various drugs where they fully represent its action instead of any fluid preparation or any powdered drug. I make this statement because of the fact that where the active principle fully represents the drug, it necessitates the learning of one dose only, instead of half a dozen or more as we have to do with many of the common drugs. Any one who looks back over his entrance into the profession can readily see what a help it would have

*Read before the Mecklenburg Co. Medical Society

been to him if such a state of affairs had existed at that time. Not only does the use of the active principles make Materia Medica easier to the beginner by simplifying this branch, but it also gives us reliable medicants which we can never have in any other way. Hare states, "Not long since an intimate friend of the writer bought from five of the leading druggists in Philadelphia six ounces of tincture of nux vomica, which were stated to have been made according to the directions of the United States Pharmacopoeia. That made by perhaps the leading druggist of the five contained twice as much strychnine and brucine as it should, and had twice as much solid residue; or, in other words, a physician prescribing this tincture in full dose would probably have poisoned his patient and reported the case as one of unusual susceptibility to drugs! On the other hand, the author has recently seen a tincture of nux vomica which contained only a trace of alkaloid, but had much inert solid residue. In neither instance was the druggist dishonest intentionally, but one had used the crude drug which was unusually rich in alkaloids, while the other had purchased nux vomica beans which, by reason of their immaturity, bad surroundings, or exposure to weather, were very poor in active principles." He also says, when it is impossible to secure assayed products, "The physician should employ the alkaloid in pill form, or, if solutions are desirable, the alkaloids may be added to alcohol or water and given by drops, as is the case with any ordinary tincture. * * * * All drugs should be physiologically tested when their chemical assay is impossible. Not long since several thousand pounds of ergot were found to be worthless on being tested physiologically by one firm; but it was put on the market nevertheless, for certain manufacturers do not employ this method of examination. Constant uncertainty is a dangerous element when dealing with patients who are desperately ill; and in many cases failure and discouragement may both be avoided if the physician will see to it that the drugs which he administers are capable of doing what he requires of them. A poor drug to the physician is worse than a rusty knife to the surgeon; for the injury in the one case is unknown, while in the other it can be carefully watched and guarded." If alkaloids are so reliable as to be used in case of last resort to secure certainty and results, why not use them all the time in preference to liquid preparations which have to be constantly watched to secure reliability? For unless the physician specifies in every prescription or sees that every prescription he writes is filled at the drug store of his choice where he has an understanding with the pharmacist as to the quality of drugs entering into his prescriptions he cannot be sure of the reliability of the drugs he is using. But why go to this unnecessary trouble or take this unnecessary risk? What a deplorable affair it would be for a physician to use a preparation of nux vomica of little strength, and, finding that to secure the results demanded, a dose of 30 to 40 m. would have to be given, and then to be so unfortunate as to secure a preparation of double the officinal strength when his prescription is filled the second time, and to have this last poison the patient as it surely would. If, in a case like this, the active principle entirely represented the drug, then, in my opinion, the physician is culpable, but if it does not, and the physician is careful to secure his medicines from what he considers a reliable source, he is not to blame, but public opinion would damn him just the same. Further comment is unnecessary, but I will add that I trust that such accidents with tincture of nux vomica will never befall any member of this Society, nor that he will ever use any of the fluid extract of ergot made from the crude drug mentioned above.

I claim that the active principles should be used instead of the galenicals, because, in making the galenicals, many pharmacists buy their drugs already powdered, and has, therefore, no guarantee that he has an unadulterated article. If he does not buy it powdered, he is not prepared to properly powder it. Sophistication is so easy in powdered drugs, and

in this commercial age, so likely to occur. I think that tinctures made from the crude drug, by the retail pharmacists should not be allowed, but, if they must be used, they should be made by diluting the most reliable fluid extract that can be procured when it is possible to make them in this manner. Can any one say anything in the defense of the tincture, except that its use is customary?

Another reason why we should use the active principles is, because the strength of the galenicals may be changed from time to time, necessitating another study in dosage also making it possible for undesirable results to occur. Take as an example, the last Pharmacopoeia which went into effect September 1, 1905, changes the strength of tincture aconite from 35% to 10%, and the corresponding change in dose. This change in strength makes it possible to have a patient get too much or too little of this important drug, and in either case it may cost the patient his life. Tincture strophanthus was also changed from 5% to 10% and the patient may be poisoned by the physician not knowing of this change in strength, or the pharmacist may use the old strength and the patient suffer from the lack of this drug.

Why do the text books give the dose of fluid extract gelsemine from 2 to 30 m., and why do some state that the preparations should be made from the green drug, while others state that the preparations should be made from the dried drug? The reason for the difference seems plain to me. It can possibly be nothing other than that one preparation has the proper amount of gelsemine in it while the other has not; and some think the green drug contains the most alkaloid, while others think there is more in the dried drug.

Has any member of this Society a guarantee that he will get a reliable preparation of this drug the next time he wishes to use it? Does it not then seem a common sense thing to do to use the active principle instead of the unreliable galenical preparations?

I contend that any physician who gives internally a fluid preparation of pilocar pus does his patient a wrong, for how does any one know whether there will be more pilocarpine present than jaborine, and if jaborine is in excess the effect will be opposite to the one expected —like that of atropine. Have we, as physicians, any right to run such a risk, when we know that pilocarpine represents fully the usual action of this drug— the diaphoretic action we expect when we use pilocarpus?

It is a well known fact that the various preparations of colchicum are uncertain at best, that some are not as good as others. Why not leave out of the Materia Medica the inferior ones? Would not this be the logical thing to do? But why use any of them when colchicine fully represents the drug, and is absolutely certain in its effect?

I believe that we should omit from our Materia Medica entirely all mention of belladonna, (and all other drugs where the active principle fully represents them). I make this statement because atropine fully represents belladonna, and to have the various preparations of the drug in addition to atropine, serves only to confuse. Does any physician doubt that atropine fully represents belladonna? If not, then, do you not think that it would be much easier for the student to remember the dose of atropine than the number of preparations of belladonna we now have in addition to the dose of atropine, which, of course, he must know? If you admit these things, then would not this be an advance?

Why is nux vomica used when strychnia fully represents this drug? Is there any physician present who would depend on tincture nux vomica as a heart stimulant? No, you want just a certain amount of strychnia, and you do not know how much you will get, if you use the tincture. Yet you use other galenicals when you could use their active principles.

There are many other reasons why the active principles should be used: It would prevent substitution, for no phar-

macist knowing the strength and activity, therefore the danger, would substitute. Another reason to prevent substitution would be the fact that the physiological action and therapeutical uses are so certain in action and so well known, that substitution would be inevitably exposed.

If physicians will use the active principles, it will make them better doctors. Because of their powerful action no one can use them without knowing their physiological action perfectly, when this is known and the condition of the patient recognized, and the remedies applied in moderate doses, repeated, if necessary, until the desired effect is produced, the probabilities of benefit to the patient are much greater than when the old way is followed of giving a galenical preparation of unknown strength in the dose advised by the text books. When the latter course is taken if the effect is not produced, the doctor calmly folds his hands and either trusts to God or says, "Nothing can be done." When physicians know thoroughly the physiological action, use the active principles, and know the indications for a remedy, then we will have great progress in medicine. We will then have fewer therapeutic nihilists, for therapeutic nihilism is caused by: Lack of knowledge of the physiological action of drugs; lack of knowledge of the condition of the patient; lack of knowledge of the indication for drugs; or unreliable drugs,—one or all. The use of the active principles removes the last and causes the physician to study the other three causes, and, in this manner, tends to remove them also.

I believe that the use of the active principles is one of the greatest advances in medicine in recent years, because it is teaching men to think of the physiological action of drugs, to study the condition of the patient, and apply the drug that is indicated in doses sufficient to produce the desired effect, instead of using complex prescriptions whose physiological action they can only guess. The knowledge and confidence gained by their use makes the physician dissatisfied with secret and proprietary preparations, and, in this manner, is sounding the death knell of all such preparations, and is building up a class of thinking physicians who want to know the composition and action of the drugs they are asked to prescribe. If this knowledge is not forthcoming they refuse to use them.

In conclusion, I will say that I contend that any physician who uses galenicals when the active principle entirely represents the drug is as far behind the times as a physician who uses powdered cinchona bark or fluid extract of cinchona for the quinia that is in it, for he is doing this very same thing when he uses any galenical for the active principle that is contained in it. I firmly believe that any pharmacist, however competent and careful he may be, is more liable to have a difference in strength in any two samples of the same galenical preparation he may make than he is to have them the same strength as they should be.

I also claim that we should eliminate from the Materia Medica all galenicals, extracts, and powdered drugs, when such drug has an active principle which fully represents it. These views, I know, are radical, and, at the present time, not at all likely to be accepted and acted upon, but while this is true, it is nevertheless the common sense thing to do, and is an advance in Materia Medica and Therapeutics whether it is admitted or not.

OPERATIVE TREATMENT of CONCOMITANT AMBLYOPIC SQUINT.

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Concomitant squint or cross eye is an easily recognized condition due to a faulty muscular co-ordination of the two eyes, the latter in turn being due as a rule to a reduction in the visual acuity of one or both eyes.

This diminution in vision may be due to errors of refraction, the correction of which restores more or less normal vision in the affected eye or eyes, or it may be caused by the well-known fundus changes of intraocular diseases as well as

by opacities of the various media which do not admit of much visual improvement from the correction of refractive errors. Finally there are many cases, in which there are no apparent ocular lesions to account for the marked visual reduction with disproportionately small refractive errors, the correction of which is usually correspondingly unsatisfactory. To these last the term amblyopic squint may well be applied.

The faulty coordination may be a primary condition in some instances and by causing a deviation of one eye it produces what is known as amblyopia ex anopsia. This class of cases in the opinion of many opthalmologists is small as improvement in visual acuity does not commonly follow the correction of the squint when the amblyopia has been marked and when the corrective lenses do not make a noticeable improvement in vision at once.

The defective vision is generally primary and the deviation secondary.

In concomitant squint there is no asthenopia and no diplopia as a rule; the patient consults us solely on account of the noticeable disfigurement, and its cosmetic importance is therefore in many cases paramount.

The deviating eye is not used and there is in consequence a loss of binocular vision.

The aim of treatment should be to correct the deformity and to bring, if possible, a parallelism of the visual axes and a restoration of normal binocular vision.

There is still, in spite of the prominence of the deformity, considerable ignorance among members of the profession, as well as the laity, as to the meaning, cause and treatment of cross eye. There is an effort always to explain its occurrence, and convulsions, the exanthemata or some severe systemic diseases are frequently cited as exciting causes, whereas, we recognize these only as coincidences, the real cause as a rule antedating these conditions. In exceptional cases squint spontaneously disappears in eyes where the visual acuity is good and the muscle overcomes the insufficiency. When bilateral defects are present the strabismus may be alternating, but most commonly we see permanent unilateral convergent or divergent squints as a result of hypermetropia, myopia, or astigmatism, associated or not with permanent intraocular changes.

In all varieties of concomitant squint the first duty is to carefully estimate the refractive error and correct it with appropriate lenses for constant use. Glasses, though in some cases they may be discarded later, are to be regarded as a necessary and indispensible evil in the treatment of squint, whether we operate or not. Mydriasis, the opthalmoscope, retinoscopy and the opthalmometer enable us even in childdren who have not learned to read to intelligently correct the ametropia. The trial lenses further assist us in older patients by allowing us with the aid of data obtained by the purely objective methods to prescribe the lenses for each patient, which seem most comfortable and give the best vision. This being satisfactorily completed our next step is to consider what measures will facilitate most rapidly and perfectly the restoration of axial parallelism and the binocular function, the latter being possible in only a minority of cases. We have at our disposal the non-operative or the operative plans of treatment.

The non-operative plan consists in the use of cycloplegics, orthoptic or gymnastic exercises with prisms, the stereoscope, and the exclusion pad. With the exception of the last these methods require an expenditure of time and patience on the part of both patient and oculist which frequently render their use discouraging and impracticable. The exclusion pad necessitates the use of the squinting eye, encourages visual acuity and improves the coordinating power of the faulty muscles and is the simplest and most readily comprehensible method of orthoptic exercise. It is in alternating squints, in periodic monocular squints and in all squints where the chief etiological factor appears to be an uncorrected ametropia that the results of the non-operative plan are most gratifying and satisfactory, and in which improvement in visual acuity (in

addition to the removal of the deformity) may be most confidently expected. Glasses and exercises are prescribed in such cases with a reasonable hope of success and operative measures should only be undertaken when a year or two has proved the futility of depending entirely upon them. In the class of cases whose etiology is an amblyopia with or without fundus changes, and with serious destruction of visual acuity, glasses and orthoptic exercises must be tried for a reasonable length of time, but failure must be predicted as almost certain, when such conditions obtain, and operative treatment is then demanded.

Tenotomy, advancement and resection combined or separately and muscle tucking are the means now employed. The differences of opinion and problems for discussion turn largely upon the age at which such measures should be undertaken and the selection of the best plan of strengthening the weak and weakening the strong muscle or of combining both suggestions.

Convergent squint being rationally associated with the exercise of the power of convergence is usually associated with hyperopia and appears at an early age. Divergent squint is most often caused by myopia, it develops later in life, and may not appear until after or about puberty.

Opinions differ as to the best age for operating on children with convergent monocular squint, some advising immediate operation at any age as soon as the failure of glasses and exercises to improve the vision and correct the deformity has been clearly demonstrated,—others advocating anywhere from seven to twelve as the proper time for interference.

To weaken the overacting muscle tenotomy is almost universally employed, though forcible stretching has been suggested.

To strengthen the weak muscle advancement is the favorite operation, there being many varieties of technique, the essential part of all, however, being to sever the muscle from its attachment and to secure it nearer to the corneoscleral junction by sutures passing through the muscle and the episcleral tissue. The objection to all of these operations is that the suture on account of the strain upon it, whether a tenotomy of the antagonistic muscle has been done or not, has a tendency to give way by cutting through, an accident which is often post operative and then beyond control. Various special needles and stitches have been devised to obviate this with only partially satisfactory results because the immediate and desired effect of the advancement is sometimes modified and the final result altered.

A suture which will invariably maintain the immediate result obtained on the operating table has been devised by Dr. Robert G. Reese, of New York, and the desired strength for the weak muscle is obtained by a resection and shortening of it, rather than by an advancement.

My method of stitching the resected muscle described suggested itself to me after seeing his operation as even more simple, and it seems to be to me especially adapted to those cases of Squint depending upon amblyopia of high degree with fundus changes or medial opacities of such a nature that the restoration of axial parallelism is difficult and binocular vision impossible, because no improvement in vision is to be anticipated. I have performed it successfully in a number of cases and am convinced that it offers decided advantages in comparison with the various methods of advancement, I am familiar with.

Cocaine or general anesthesia can be used according to the temperament of the patient, the former being more preferable, of course, and adrenalin solutions make the operation more or less bloodless.

The instruments needed are muscle forceps, strabismus hook and scissors, fixation forceps, speculum, a needle holder and needles with strong sterile silk sutures. After properly cleansing the eye a vertical incision is made over the weaker muscle, its tendon exposed, and while the belly of the muscle is held with a pair of advancement forceps it is severed near its attachment and separated somewhat from the conjunctiva and sclera.

The needle is passed through the conjunctiva (at (A), see Fig.) then the tendon (B) and then the under side of the outer part of muscle and then conjunctiva (C) successively; the needle is then re-inserted (at D) and passes through conjunctiva, muscle, tendon and conjunctiva in the reverse order (E F G), leaving the ends (H H) ready to be tied. As much of the muscle as seems necessary, judging from the degree of squint, is cut off behind the grasp of the muscle forceps and the gap is filled by tying the suture ends securely at I.

The eyeball is thus drawn into its proper position and it is impossible for this suture to slip or give way subsequently.

For high degrees of squint tenotomy of the opposing rectus is also necessary and this is most easily accomplished after exposure of the weak muscle and clamping it with the forceps, by means of which we can rotate the ball outwards and get easier access to the tendon of the strong muscle.

The subject of opthalmic myology is still in a formative stage, and the correction of squint demands much judgment and experience and even thus equipped there is an element of uncertainty as to the immediate as well as remote results of the operation.

PUS-TUBES.*

A. E. BAKER, M. D., CHARLESTON, S. C.

There is no disease in Gynecology which endangers a woman's life more than pyosalpinx. This being true, no subject more important could have been assigned for our discussion to-night, and I trust each one here will discuss it freely, and at the same time be thankful that he is not of that sex which renders him heir to the disease.

The dangers and complications of pyosalpinx are not unlike those of appendicitis. We have inflammation and suppuration going on in the abdominal cavity, the most delicate and vulnerable portion of the human body. Any such invasion into the peritoneal cavity, causing acute and progressive peritonitis renders medicine of no avail except to paliate pain for the time being. Surgery then holds out the only hope in such grave conditions. No delay should be allowed, but most active steps should be taken to get rid of this suppurating organ.

Etiology.—The pus formation in the fallopian tubes is due to any of the pus-producing micro-organisms, which usually find their entrance through the vagina into the uterus, then to the tubes. Many writers lay great stress upon the frequency of this disease being due to the gonococcus. Drs. Sangers and Rasthorn found tubal disease in 33% of all women affected with gonorrhea.

However the pus of pyosalpinx varies greatly in character. In the early stages of the disease it is actively septic and contains a variety of micro-organisms.

These organisms are the gonococcus, streptococcus, staphylococcus, the bacillus coli-communis, the tubercle bacillus and the pneumococcus.

Before taking up the character of pus produced by these organisms, I want to call your attention to the anatomical condition of the fallopian tube when distended with pus or any other fluid. Its walls gradually become thinned, this thinning of the tube-wall predisposes to rupture or leakage, and the contents escape into the abdominal cavity. A pyosalpinx often becomes adherent to the rectum, to the small intestines, or to the bladder. These adhesions may break down and the wall of the intestine or the bladder becomes perforated and the pus is discharged in this way. In some unusual cases the obstruction in the lumen of the tube is temporarily overcome, and evacuation takes place through the uterus, followed by refilling of the tube.

This, however, is a very unusual occurrence and is not as frequent as some writers believe it to be.

In the later stages of pus tubes the organisms become inert, die and disappear,

*Read before the Charleston Surgical Club, Oct., 1905.

so that in the majority of cases of chronic pyosalpinx the pus is found to be bacteriologically sterile. Observation on this subject made by a number of investigators show out of 133 cases of acute and chronic suppuration of the uterine appendages in which the pus was examined bacteriologically no organisms whatever in 82 cases—in other words, the pus was sterile in about 61% of the cases.

The pyosalpinx in time, therefore, becomes inert so far as any inflammatory action is concerned, and resembles a chronic abscess in any other part of the body. However, this chronic abscess may at any time become reinfected by septic organisms entering the abscess by way of the uterine cavity, or adherent loop of intestine or the bladder.

I quote from a writer who says if a woman survives the dangers to which she is exposed from a pyosalpinx, the pus tube may in time become converted into a hydrosalpinx, the solid constituents of the fluid becomes absorbed or deposited upon the cyst walls and a clear watery fluid remains. In hydrosalpinx the recesses of the tube are found to contain cheesy material—remnants of the old purulent accumulations.

As regards the nature of the streptococcus it differs from the gonococcus.

Infection with this organism, usually occurs during a badly conducted case or after an abortion, or is introduced into the uterus by dirty instruments in the hands of the physician.

As the inflammation of the tube progresses, the adhesions become more dense, and finally the tube becomes closely attached to the posterior surface of the broad ligament, to the uterus, to the pelvic wall and floor, and covers in the ovary with its mesosalpinx also the rectum is liable to be involved in the adhesions. The weight of the large pus tubes causes a sagging until finally they are found in Douglas cul-de-sac.

Symptoms.—The symptoms vary widely according to the stage of the disease and the variety of the infecting organisms. During the acute stage lasting a week or longer, the patient often suffers intense pain, she lies in bed with knees drawn up and an anxious expression on her face. The elevated temperature, quickened pulse, and local tenderness all point to an inflammation localized in the pelvis.

The diagnostic symptoms between streptococcus infection and gonorrheal. The former dates from a confinment, an abortion, or local treatment of the uterus. The onset is rapid, attended by a chill, high fever, and a rapid pulse. The patient is bed-ridden from the very beginning of the attack, while the patient with a gonorrheal infection may only be bed-ridden for a week or 10 days, or not at all.

After the acute attack has passed in both the gonorrheal and streptococcus infections, the patient may get out of bed, continuing to suffer, but in the stpreptococcus cases, she usually has a septic temperature and peculiar anemic look of a grave infection.

Obstinate constipation is sometimes found as a result of the pain on straining at stool, or due to the pressure on rectum contracting the lumen of gut.

Frequent urination is often a distressing symptom. The bladder and ureters may become infected by the organisms passing into them.

Diagnosis.—A vaginal examination shows that the uterus has lost its natural mobility; sometimes it is solidly wedged in between masses which are felt on one or both sides of the cervix as dense, hard, shapeless, resisting bodies. The hardness of the vaginal vault is one of the most characteristic signs of the presence of pus. The position of the fundus often cannot be outlined.

If the infiltrated mass felt on the side of the uterus or in Douglas' pouch contains pus, fluctuation may be felt best by the examining finger in the rectum, but if there is only a little pus, it is impossible to detect it.

Treatment.—Kelly says active surgical interference is the rule in 99 out of every 100 cases, and this consists either in letting out the pus through the vagina or in opening the abdomen and removing the sac with or without the uterus.

Expectant Treatment.—Rest in bed, bowels kept open, proper diet, cold and hot applications applied. This treatment is only applicable in the acute stage of the disease. Kelly lays stress on the evacuation of the pus as the simplest plan of treatment, and one involving few risks to life in suitable cases. It is accomplished by one of three avenues—the uterus, vagina or the rectum.

Through the uterus: The method is to squeeze out the pus by bimanuel examination—no operation required.

Simple evacuation by the vagina without enucleation is also indicated even where the abdomen has been opened, if the removal of the adherent tubes and ovaries involve risk to life.

In such cases as these, life would often be saved by simply draining the pelvic abscess through the vagina, but in an attempt to enucleate, the shock to the system and danger of new invasion of sepsis too often sacrifices the patient's life.

In making the vaginal puncture there are three possible dangers to encounter, viz., injury to the ureter, uterine artery, and rectum. To avoid these complications the puncture is best done with a pair of scissors curved and sharp on the point—introduced on the finger posterior to the cervix of the uterus. After the scissors are introduced into the abscess, withdraw them with blades opened, which will give you a lacerated opening sufficiently wide for drainage. Were you to make this opening with a knife the possibility of cutting the ureter or the uterine artery at times might be unavoidable.

In regard to the different kinds of pus-tubes. Some take on the shape of a sausage and the adhesions to surrounding organs can be broken up without danger of rupturing the abscessed tube. After the tube is freed from adhesions it is severed from the uterus by taking out a V-shaped plug from the latter. All raw surfaces are turned in with plain, small cat gut to prevent adhesions.

The tubo-ovarian abscess is more complicated and difficult to enucleate. Often it is found to occupy the space under the broad ligament—extending from the uterus to the side of the pelvis.

This is the abscess which most frequently ruptures when being dissected out. To avoid this danger I have devised a method, which has enabled me to enucleate six of these abscesses in succession, without rupturing any or them. The patients making uneventful recoveries.

The operation.—First make a free abdominal incision, in order to have plenty of room to work. The patient being in Trendelenburg position, the abdominal cavity is carefully walled off with pads. Break up all adhesions which can safely be done, liberating the uterus and abscess from the surrounding viscera. Now it remains to enucleate the abscess from under the broad ligament. This is the most trying part of the whole operation. The abscess walls are thin and friable and will frequently rupture in spite of the most delicate dissection.

With Dr. Dougal Bissell's clamp, I clamp two or more inches of the broad ligament between abscess and side of the pelvis, and with scissors sever as much of the broad ligament as is clamped. This will free and make easy the dissection of the abscess on that side. If necessary apply a similar clamp between the uterus and the abscess, including in the bite the fallopian tube and the broad ligament. After this is severed the abscess can easily be lifted out of Douglas' cul-de-sac without any undue pressure made on the friable walls during the dissection.

Before closing, I wish to lay stress on the importance of draining through the vagina if infection should occur before or during the operation. Also put the patient in a half sitting position to favor drainage and to prevent the infection from ascending to abdominal cavity.

DISCUSSION.

DR. MAYBANK: I have enjoyed Dr. Baker's demonstration very much. He has told me about the operation, but I have never had the pleasure of seeing him remove one of those pus abcesses in the way he has demonstrated it. I know he has met with marked success in pus tubes and abscesses in the pelvis.

The diagnosis, I think, is very much more difficult than Dr. Baker has led us to suspect.

Occasionally we have very few symptoms even referable to the pelvis. I have known one or two cases, with loss of flesh, septic temperature,—cases of that kind which give no reference to pelvic trouble at all; the patient feels very well at times, then sometimes has fever, as high as 103° or 104, malaria or tuberculosis being suspected. In the majority of cases we do find the abdominal pain, localized probably on one side, and all the symptoms he has mentioned. It is surprising what large abcesses will result from pus tubes. I very recently saw a case where there must have been two quarts of pus in the abdomen; it had ceased to be in the pelvis, and had extended up the abdomen almost just below the umbillicus. The patient was operated on, and got well. Dr. Baker did not lay sufficient stress on the methods resorted to in protecting the general peritoneal cavity from infection. The patient is put in the Trendelenburg position the intestines are pushed well up and large gauze pads used to keep them out of the way, and at the same time shut off the general peritoneal cavity.

I think every case of pus tubes is sooner or later a case for operation.

DR. WHALEY: I have listened with a great deal of pleasure to Dr. Baker's paper, and the subject has interested me considerably.

Dr. Baker said that he believed in active surgical treatment as soon as the disease was diagnosed. The majority of authorities tell us that that is just the time you should not, especially in acute cases, use active surgical treatment, but to wait until the acuteness of the inflamation has passed; and they also tell us it is very seldom that these cases go on to rupture before the acute stage has subsided and the chronic stage sets in. And again, I think sometimes they never should be operated upon. The mortality from pus tubes in the City Hospital is terrific the whole year round; so much so that one of the dispensary physicians informed me he had quit sending in his cases of pus tubes to the hospital, because they all died.

As to the gonococci being the productive Agent—I believe the gonococci to produce a good many pus tubes, the majority I expect, and I think the real danger in pus tubes occurs not so much from the gonococci, as from the fact that these germs inflame the tube and weaken it, thereby allowing other germs to infect this inflamed surface. It is remarkable how soon after infection a large pus tube can be found in an individual. I know of a case that Dr. Rhett operated on that was septic six weeks after the infection occurred. This was all pretty well proved. Dr. Rhett operated on her after she had become septic, in fact did not see her until then; and there was a large tubular abscess on each side. On examining the pus from those tubes, so far as the microscope went, it was a pure culture of gonococci, the pus was just teeming with them. It is the general belief, and Kelly as well as Dudley will tell you, that pus tubes produced by gonococci are not nearly so malignant when they rupture in the abdominal cavity, as the pus tubes produced by streptococci or the colon bacillus, and it is supposed that the reason so many pus tubes get well after operation, where pus has been spilled into the abdominal cavity, or where rupture had occurred before operation, is due to their having been produced by gonococci, that they are more or less chronic, and that an old culture of gonococci lacks the virulence of the fresh culture; and for that reason the extension of peritonitis is checked. Of course, the streptococcus, or colon bacillus, would give us a more virulent infection, and a more rabid form of septicemia. In several of Dr. Rhett's cases, in which I had occasion to examine the pus, it was found free of germs or comparatively so.

Dr. Baker spoke of being able to squeeze out pus through the uterus. Some years ago there was an extensive discussion at the Medical Club about that, in which Doctors Rhett and Edwards both participated, and they even went so far as to get specimens from the dead-house to see if it was possible to squeeze pus through the diseased end of a tube. I think they absolutely failed to do so.

DR. REES: I think Dr. Edwards did favor the idea of pus going through the tube.

DR. WHALEY: He did,—they tried it by means of these specimens and it failed. I was practically convinced of the validity of their argument at that time; but recently, within the last ten days, I have had a case where this positively occurred. Dr. Baker assisted me in the operation. I operated to remove a large pus tube from the right side and we found after we had gotten into the abdomen that the tube diminished in size as we manipulated it, and it was noticed that the pus came through the vagina. The abscess kept on diminishing in size and finally became flat. On the other side was a small, broad, ligament abscess which had evidently ruptured before we had entered the abdomen and pus was found free in the pelvis.

A word with regard to conservative surgery: When we enter a pelvis in which we find pus, I think it is far better; unless we can be reasonably sure that the other tube is about to rupture, to put in a vaginal drain and drain away that pus, and get out of that abdomen as quickly as possible and close it up. My reasons for this procedure are these: By doing so you subject the patient to much less shock from prolongation of the anasthesia, and from the mutilation of tissue, and in addition to that you leave no raw surfaces through which septic material can gain entrance into the system. In this case, I simply put in a drainage tube through the vagina, did not remove any of the organs of the pelvis at all, subjected my patient to as little shock from anasthesia and handling of peritoneum as possible, and she made a nice recovery, when according to all the laws of surgery we should have expected trouble. This abscess was of good size, and extended about the whole length of the fallopian tube, being several inches in length.

Again, I would like to advocate vaginal section more often in these cases of large tubal abscesses. The vagina is the most natural approach to these abscesses, being the most dependent point, is by far the easiest place for drainage; and I think a great many of these tubes can be opened through the vagina with considerable lessening of the mortality.

As to Appendicitis and Tubal Disease: In the last *Journal* I quoted a man named Baker on this subject, in which he stated that 50% of appendices were microscopically impaired in connection with tubal diseases.

In regard to the method of excising: The method Dr. Baker has shown us, and which is advocated, is apparently a very excellent one;

but I have not yet been able to see the advantage of clamps over the ligature before cutting. In the first place you are bound to have more or less hemorrhage, no matter how careful you are to shut off the abdominal end of the arterial connection, there is a certain amount of hemorrhage taking place between these points when the ligament is cut, which is sometimes exceedingly difficult to control,—the ligature overcomes this nicely.

Again, you will find that in the majority of tubes of any size, they fall backwards instead of forward, and you usually have your tube adherent to the rectum and the posterior structures, rather than to the bladder and the anterior structures. A nice way to get out these tubes is to run your finger down behind and start pressing them up, in this way mild adhesion can be broken up, until you are able to get your tube up into the wound and do your work practically outside of the abdominal cavity, that is, in a completely walled off space.

Dr. Baker spoke of aspirating the tubes when tense. According to Jacobson, that is the very time you should not aspirate, he says to aspirate tubes that are loose and not tense. He gives as his reason that where you have tubes that are tense you have a well defined, globular, easily handled mass to deal with; but where it is loose the borders are ill-defined and it is hard to know what you are doing and where you are at.

A word in regard to abdominal gauze drainage: Years ago, at a meeting of the Medical Association at Harris Lithia Springs, I heard Dr. DaVega, a very close follower of Hubbard Price, state that in his opinion gauze never drained in the abdomen up-hill, and I believe that he was right. I do not believe that gauze will drain up-hill properly; and therefore I do not advocate drainage through the abdominal wound; unless that drainage is the cigarette rubber drain, but I do advocate drainage through the vagina where you have gravity to assist you, and where you know that drainage will be properly performed by gravity if not by capillary action.

I am very glad to have heard this paper and have learned a good deal from the discussions.

DR. HUNTER: I have listened with a great deal of interest to Dr. Baker's paper. In a recent case the sac was so thin and tense that I was afraid to either ligate or clamp for fear of rupture of the sac. I aspirated and then removed the sac.

I believe with Dr. Simons that if we have to take out both tubes and overies we should remove the whole organ.

DR. M. SIMONS: There are a few points I would like to touch upon, and the first I bring up is that of the etiology of pus tubes. It has become the fashion to say that pus tubes are almost always the result of gonorrhoea, or at least in the great majority of cases. I do not believe this to be the fact. I believe pus tubes may follow almost any form of endometritis. Sepsis after abortion, or after ordinary labor, is responsible for an equal, if not a greater, number of pus tubes than is gonorrhoea. The manipulations in the uterus by the gynecologist are likewise responsible for a great many cases of pus tubes.

I believe that the use of the curette, in the hands of those who do not appreciate that curetting is an operation that should be performed surrounded by all the precautions of asepsis, is followed in many cases by suppuration in the tubes. I am inclined to believe that J. B. Murphy is a little extreme in his statement that he regards the curette as the most damnable instrument in the armamentarum of the gynaelogical surgeon, but I think that curetting, performed by those who are not competent, or by those who are competent but careless in its performance, is one of the most frequent causes of septic infection of the endometrium, and extension of that septic infection from the uterus to the tubes. This I believe is not in accord with the view held by many who maintain that a very large majority of the inflammatory diseases found in the pelvis are due to gonorrhoeal infection.

The next point I wish to allude to is the diagnosis of pus tubes. The most constant symptom I believe is pain over the region of the ovaries, even in the acute cases. It is always present, and is continuous; but is much worse at each menstrual period. This dysmenorrhea is usually very characteristic. The pain is spontaneous, and elicited by pressure over the ovarian region, and by bi-manual examination There is no more certain sign of pus tubes than pain on pressure between the two examining hands.

WHALEY: That is, with the tube between?

SIMONS: Yes; you have to reach the structures involved before you can elicit pain of that kind. It is natural to expect pain as a symptom of pus tubes, because there is always, as you have said, displacement of the tube, the tube falls backward, and carries with it the ovary, and we know of no cases in which pain is a more characteristic symptom than in those of prolapse of the ovary. Another point I would call attention to is that pus tubes may be either an exceedingly acute disease or very chronic.

I have in mind a case I operated on at the City Hospital last winter, at my first clinic. A girl of sixteen who had contracted gonorrhoea ten days or two weeks before, and when she was brought to the operating table I found pyosalpynx on one side and tubo ovarian abscess on the other. There was a general septic peritonitis. All of this occurred within ten or fourteen days of infection with gonorrhoea.

On the contrary, pyosalpynx is usually a chronic disease, and especially is it so with that form due to gonorrhoea. The majority of cases of pyosalpynx due to gonorrhoea are slow in their origin and progress. As bearing somewhat upon the treatment of these cases, I will touch very briefly upon the natural history of pyosalpynx, or rather I may say the pathology. We know that in pus tubes (or purulent salpyngitis) the first step after the formation of pus is the closure of the outer ends; indeed, it is nature's effort to save the life of the individual by protecting the peritoneal cavity from infection. The manner in which the abdominal ostrum is closed is very characteristic. I allude to this closure of the tube ends to account for the occasional disappearance of the accumulations of pus in the tubes through the uterus. As long as the opening of the tube connecting with the uterus is patulous it is possible for spontaneous emptying of the pus into the uterus to take place. It is very rare, but it does happen occasionally, and the disappearance of the tumor of the tube has been observed simultaneously

with the discharge of pus from the uterus. The disappearance of the tumor can be detected by bi-manual examination. In that way the pus may empty through the uterine opening as long as that opening is patulous; when that is closed there is no longer any possibility of the tube emptying into the uterus.

This brings me to speak of the method of milking the tube that has been proposed as a plan of treatment of pus tube—which I think is most unphilosophical, not to say dangerous and unjustifiable.

As Dr. Baker has said in his paper, generally when the tubes are distended with pus the walls become thin; and under such circumstances nothing would tend more strongly to rupture than the process of milking the tubes.

Now, as to Dr. Baker's method of enucleating or shelling out the pus sac: I do not think that the cases he reports and the one I saw him operate upon were pyosalpynx pure and simple.

All of us who have seen pus tubes know that they occur in different forms; sometimes they are sausage shaped, or coiled up around the cornua of the uterus, with no adhesions to other parts. At other times we find them firmly bound to the floor of the pelvis as well as to the lateral walls or rectum. Again, we find what are known as tubo ovarian abscesses. I am satisfied that the case Dr. Baker operated on when I was present was a tubo ovarian abscess.

In chronic salpingitis the inflammatory process usually in time extends to the ovary, and some of the forms of chronic ovaritis are produced. Fallicular cysts of the ovary usually result from chronic inflammation.

Pyosalpynx and follicular cyst in the ovary often occur together. The pus tube by its weight sags downward between the layers of the mesosalpynx, burrowing between the layers of the broad ligament. The tissue intervening between the cavity of the tube and the cyst in the ovary may be absorbed or perforated and the two cavities will be thrown into one, forming a tubo-ovarian abscess. Practically, then the tumor is intra-ligamentous, and it is possible to enucleate it according to the method proposed and practiced by Dr. Baker.

As to Dr. Baker's operation in the case that I saw the result was brilliant. The operation was performed after careful consideration, and after we had previously opened one of the pus accumulations through the vagina, where we could detect fluctuation. We did this with the distinct understanding that we would have to go back into the abdomen. It was not more than three weeks that this anticipation was realized. We opened the abdomen and found a tubo ovarian abscess. Dr. Baker clamped off the broad ligament on the right side, not because it was the best way of stopping hemorrhage, but because it was the way to faciitate the operation on a woman in a desperate condition, whom we were afraid to subject to the shock of long continued anaesthesia, and we desired to conclude the operation as quickly as possible.

There was one point in his operation the doctor did not lay much stress upon, that struck me as important and risky.

The tubo ovarian abscess had grown up and separated to a great extent the layers constituting the utero vesical folds of the peritoneum. After having cut through the broad ligament on the right side close to the pelvic wall, he then made an incision through the utero vesical fold and enucleated the tumor from the front, introducing his fingers between the layers.

The operation proposed by Dr. Baker is not applicable to the majority of cases we see, in which the pus tubes are not included between the folds of the broad ligament. These are the cases in which the ordinary methods are competent.

Dr. Baker says that he employs ventral suspension of the uterus when he finds it necessary to remove both ovaries and tubes.

I think that if I had a case of double pyosalpynx and should remove both ovaries and tubes I would not leave the uterus suspended. I would not leave a functionless organ, but would complete the operation by a hysterectomy; the uterus would no longer be of use, but might give trouble further on by persistence of an endometritis.

As to operations for pyosalpynx I believe there are some rare cases, in which vaginal puncture is justifiable. I cannot believe it is justifiable, unless the pyosalpynx has become adherent to the vault of the vagina.

Indiscriminate evacuation of collections of pus in the pelvis by way of the vagina has resulted in a great deal of harm. The abscess being usually of vital origin often persists indefinitely. Intestine, ureters, bladder, and blood vessels have often been injured. I believe, however, it is justifiable where a point of distinct fluctuation can be distinguished in the vagina, and it can be ascertained satisfactorily that the pyosalpynx has become amalgamated with the vault of the vagina.

We know that one way by which nature empties such tubes is by the softening and gradual absorption of the abscess wall into the vagina. Even when the pyosalpynx is opened in this way, though you enlarge the opening leading into the cavity and pack it, sooner or later there will be a reaccumulation of pus in the tube, or the results of the subsequent contraction will produce later on just as unbearable a condition as there was before, and you will finally have to open the abdomen, break up the adhesions and remove the tubes.

I dislike to disagree with so great a surgeon as Jacobson, as quoted by Dr. Whaley, that pus tubes, if let alone, will get well. That is not analogous to the history of pus collections in other parts of the body. We know that it does not empty itself except in very rare cases. It seems probable that if the woman survive the dangers to which she is exposed from a pyosalpynx, the tumor may in time become converted into a hydrosalpynx. The pyosalpynx may in time become inert so far as inflammatory action is concerned, the pus may become sterile and it may resemble a chronic abscess elsewhere—but active inflammation may be excited in it at any time. It is a constant menace.

The progress of salpingitis is beset with danger, and rupture with fatal peritonitis may occur at any time with the slightest cause. From what he has said I think Dr. Whaley has misunderstood me. When I say that it is an unphilosophical plan to attempt to squeeze out pus through the tube into the uterus. I look to that as a plan of treatment before the abdomen is opened, and you do not know what the condition in the pelvis may be, or in other words, I do not think it is justifiable in a case of pus tubes for the surgeon as a first effort at treatment to

endeavor to squeeze out the pus from the tube into the uterus.

I think it was justifiable for Dr Whaley when he found, during his operation, the pus going that way to facilitate its escape in that direction rather than have it escape into the cavity of the abdomen because he had it then under his fingers.

As to Dr. Whaley's case where he found the pus oozing from the abdominal astium of the tube, I think that is simply evidence that nature had not finished her conservative work in the effort to close the tube. It did not leak at first, but did so after he commenced to handle the tube. This is not an argument against the observation that nature does close the tube as a conservative means.

DR. AIMAR: There is no question that this is about the most serious disease with which a gynecologist has to contend, and it is a disease in which no one seems to have done anything towards the prophylaxis. If we consider the etiology of the trouble, I cannot agree with Dr. Simons' views about the gonococci. Dr. Baker has quoted Sanger, as quoted by Kelly, in giving 33% of cases in which the gonococcus has been found. But Kelly further states in that paragraph that he thinks that the gonococcus is probably found in a greater number of cases than this; that in many of these cases of Sanger, sometimes the pus was examined, but, due to imperfect microscopic technique diplococci were taken for gonococci, and he would lead us to infer that the frequency is very much more often than Sanger has stated.

Baudler, of New York, who possibly goes to the other extreme, says it is much more frequent than this. He places it at 98.9%, and with that enormous proportion of cases due to this germ we have done nothing with regard to preventing the disease. It seems as if some steps should be taken in some way to prevent innocent women from being subject to this infection. We have all of us in our practice had experience where this disease has resulted very soon after marriage, the man at the time of his marriage having gonorrhea.

In regard to the statement of Dr. Whaley as to the dispensary physicians: My experience has been that in the hospital the mortality in these cases is very great, but it is due to the fact, I think, that the cases come in very late, and when they get to the hospital have been almost *in extremis*. The hardest cases I have ever operated on have been those that I have seen in the hospital. Then again, a certain number of cases refuse to go to the hospital, and somehow they do get well. In the case of two negro women, I made the diagnosis and they refused operations, and both got well. But I hope the dispensary physicians will be made to send them in early rather than not at all.

Dr Whaley and Dr. Simons have referred to Dr. Baker's operation, controlling hemorrhage, protecting the tube and so forth, but, as I understand the operation, the most important point is to get the tube out without rupture,—the success in these pus cases is to get the sac out, while those cases that die are cases where the pus is spilled in the peritoneal cavity,—if you remove the tube whole, that lessens the mortality.

Vaginal drainage has been alluded to, which is absolutely correct, but there are certain cases to which I certainly do believe the old time handkerchief bandage is applicable. In a case that is accidentally ruptured, and everything emptied and where there is a quantity of broken down, groumous, infected tissue in the lower part of the pelvis, the handkerchief bandage, well packed in, prevents the intestines from coming down against that infected surface, and prevents the infection from spreading by continuity. These cases, of course, are few, and I don't think I would use the gauze packing now as much as I did formerly,—but I believe there are cases where it is applicable, for these reasons.

DR. CATHCART: In regard to the sources of infection, I do not know whether I misunderstood the Doctor or not. I understood him to say there was only one source of infection in these cases, viz., directly through the vagina and uterus. There are four sources or avenues of infection to the tubes: First, directly through the vagina and uterus; second, through the intestinal tract, adhesion having been formed between the intestines and tubes they become permeable from an ulcerated process and permit germs to enter through the fimbriated end; third, through the blood or lymph channels; fourth, from operations opening the peritoneal cavity, when some infection may be carried in.

All cases of pyosalpinx originate from a salpingitis. Salpingitis may be acute or chronic; some cases are chronic from the first. The inflammation extends from the end of the tube, the muscular coat becomes elongated beyond the fimbriae, which retract and become invaginated into the tube, thus closing the abdominal ostium, which is the most frequent occurrence; or adhesions may be made between the tube and neighboring organs, such as the uterus ovary, broad ligament or intestines, the ostium being closed by this process. The abdominal ostium being closed the process goes on, and you have pus formation. I was at one time prone to disbelieve that the tube could empty itself into the uterus, but I have had some cases of pyosalpinx which refused operation in which the tube undoubtedly emptied its contents into the uterus, and by reference to most of the authorities I find that all of them claim that the tube at times empties itself into the uterus, when the ostium at the uterine end of the tube has not been occluded. If the uterine isthmus becomes occluded, distension of the tubes takes place, and you have a pyosalpinx, a hydrosalpinx or a hematosalphinx, according to the nature of the contents. In some cases after a time the virulence of the organism in the tube becomes lowered from want of proper food and oxygen, pus ceases to be produced and it becomes inert. Then it goes on to the formation of an exudate, which is distributed around the walls of the tube, and a serum is formed, a great deal of which is absorbed. This is the second stage of a chronic form of salpingitis, known as hydrosalpinx. Then you may have a hemorrhage causing what is called hematosalpinx. Then on to the fourth stage. It becomes attached to the ovary, the ovary is surrounded by capsule of inflammatory tissue, degeneration takes place, and a point between the ovary and tube breaks: thus you have, as Dr. Simons explained, a tubo-ovarian abscess.

These four stages of salpingitis are all forms of the same disease, and all four stages may occur in the same woman at the same time. The majority of authorities give gonococci as a

chief cause, or the most frequent cause of pyosalpinx. The five principal pathogenic germs that produce salpingitis, or that cause the infection, are the gonococcus, the streptococcus, the bacillus tuberculosis, the staphlococcus and the bacterium colicommunis.

In regard to the operation: I believe the best operation is by careful dissection, when it is confined principally to the tubes, no matter how large the tubes are, if they have not ruptured or leaked into the surrounding tissues. If they go on to the extent of breaking down, or have leaked into the surrounding tissues, these become infected, and you have a collection of pus in the folds of the broad ligament, then I would think the operation of Dr. Baker all right. Preferably I would drain through the vagina, as he did at first, hoping to get back into the abdomen at some later day. I believe with all pyosalpinx, when confined to the tubes, that the best operation is, after the abdominal incision has been made, to push all the intestines possible up towards the diaphragm and hold them there by packing with gauze sponges, seek the fundus of the uterus, and gradually with your finger dissect along its posterior surface until the cul de sac has been reached. From this point separate the adhesion from the center as much as possible, filling the space made with gauze sponges. Separate the adhesions of the intestines, and push back towards the diaphragm out of the way, packing them with gauze sponges. Now gradually separate the adhesions, holding down the tubes, beginning at the uterus and carrying it well out towards the sides of the pelvis, realizing that these adhesions are caused by an inflammation set up by infection rather than a trauma; that you have nothing there but adhesion of inflammatory lymph, which breaks down usually very easily under your fingers. During this procedure the uterus should be lifted up as high as possible with forceps. The dissection in this way is carried out to the sides of the pelvis, and, after all adhesions have been separated, exsect the tube by a V-shaped incision at the cornu of the uterus, then ligate according to the manner of Dudley or Price. Ligate your ovarian artery near the pelvic end of the tube, then close in to the uterus at the anastomosis of the uterine artery, before you cut through the fold of the broad ligament. After this close in all raw surfaces with a running stitch.

In regard to hemorrhage, I have had cases in which the tubes had ruptured or leaked, and there was a large collection of pus on the sides or behind the uterus, a large pelvic abscess, in which it was not necessary, in dissecting out the cavity, to ligate any of the vessels; in fact the tissues were too rotten to hold a ligature. I think Dr. Rees will remember the case in which there was not a ligature put, but only gause packing, and there was no hemorrhage, the patient recovering. In these cases, if necessary to drain, I would rather drain through the vagina.

DR. REES: This subject was started as early as 1783, when Dr. Seldel, a Russian surgeon, made the observation that an abscess would sometimes, following abortions, form in the pelvis, and that the Fallopian tube was filled with pus. He made an operation and opened the pus sac. His technique is interesting, and embraced some of the modern methods employed in dealing with these cases.

In 1872 Dr. E. Noeggerath wrote the first paper on latent gonorrhoea in the male infecting women. Again in 1876 Dr. Noeggerath gave another paper on latent gonorrhoea, more fully setting forth his belief that this was the cause of infection in the Fallopian tubes and pelvic structures. About 1881 Dr. Tait began his operations for pyosalpynx, determining that pus in this region could be, and should be, evacuated just as would be done for pus accumulations in any other part of the body. The views of Dr. Tait were immediately taken up and he had many followers. There was a wide field for active surgical investigation. In a few years the question was about settled in the treatment of pus in the pelvis with some minor differences in operative technique. Infections in the pelvic structures were believed to be of the pelvic cellular tissue. Careful observation, and abundant clinical experience upon the operating table, clearly settled the question that the infection was primarily in the Fallopian tubes, and the pelvic peritoneum secondary. The question of, salpingitis, pyosalpynx and pelvic peritonitis, we find but few recent writings upon. This subject has been more thoroughly settled than any other surgical condition we have to deal with, appendicitis not excepted. The diagnosis as Dr. Maybank has said, is sometimes difficult. In the majority of cases the diagnosis should not be difficult. There is a characteristic difference from any other pelvic lesion, which should generally lead those of experience to a correct diagnosis. Many cases are so extremely sensitive—the pain intensely acute and unbearable, an anaesthetic is requisite. Where there has been extensive peritoneal inflammation, with anaesthesia the distended tubes, even though they be large, cannot be determined as such. But the fixation of the pelvic organs, with a bogginess and sense of deep suppuration, leads invariably to pus. The operation for pus tubes and pus sacs outside of the Fallopian tubes offers many difficulties, and a variety of pathological conditions which can only be overcome by clinical experience. The mode of attack must be determined by individual cases. I like the technique advanced and practiced by Dr. Baker. First and of great importance, a long incision to give abundance of room through which to deal with the numerous and varied adhesions found in the pelvis. The care with which the abdomen is protected away from the infected area is not the least important part in the technique. Methods of protection by gauze packing, is many times only incorrectly, improperly and imperfectly made. A mistake frequently made in these cases as in other pelvic and abdominal lesions by those inexperienced, is immediately after the abdomen is opened, to proceed with that which to first presents. Consequently the operator in a few moments is hopelessly lost in a mass or masses of distorted loops of bowels densely adhered together. A fundamental principal of surgery is overlooked: first find what the operation is made for, then determine the extent, and a plan of attack. A fair proportion of cases are admirably suited for the method followed by Dr. Baker. In large tubo-ovarian abscesses, without leakage of the tubo-ovarian sac. When there has been a leakage of the tube with secondary abscess cavities in the broad ligament or an abscess between adhesions of the bowel and tube, or tube, uterus and bowel, the abscess sac cannot be ablated by the

method advocated. Again, as Dr. Whaley has called attention, the distended pus tube has fallen posterior and become firmly adherent to the rectum, the anterior rectal wall making a part of the abscess cavity. These cases cannot be dealt with as Dr. Baker has advocated. In old cases where the adhesions are dense, I regard the operation an extremely difficult and tedious one. Dr. Whaley has called attention to drainage of pus tubes into the cavity of the uterus. Dr. Baker also mentions this in his paper. With a fair experience, and with special attention given to the uterine end of a pus tube, after its removal, I have never been able to reconcile myself to believing that it was possible for pus to drain out of this end. The protection against such drainage was always most carefully and thoroughly provided against. But such experience as Dr. Whaley has given us is most valuable, and cannot be questioned when it occurred at the time of operating under his eyes with the relaxing tube in his fingers. Pus tubes, like appendicitis, are always interesting. We have not touched this subject for a long time, in all of our surgical discussions, and it is a good thing to go over it. There is always an abundance of valuable experience left for interesting discussion.

DR. BAKER: I want to thank each one for the free discussion of my paper, and especially do I appreciate the favorable allusions to my operation. As the evening is so far advanced I will not consider further the points that have been raised by the discussion for fear of detaining you too long.

SOCIETY PROCEEDINGS: ORANGEBURG.

The third regular meeting of Orangeburg County Medical Society was called to order by the President, Dr. W. L. Pou, Oct. 2, 1905. Fifteen members answered to the roll call. The minutes of last meeting were adopted with one exception, which, upon motion of Dr. Lowman, was that the regular meetings be held on the third monday in each month, instead of first monday. After some discussion, there was a unanimous vote in favor of the third monday, and the minutes were ordered adopted with this change.

The names of Drs. J. H. Price, W. W. Wolfe, and T. H. Dreher were then presented to the society, and these gentlemen received unanimously as members. No one presenting any clinical cases to the Society, the subject was passed.

Under the head of papers and discussions, Dr. Able said he would take the liberty of calling upon Dr. M. G. Salley for a talk upon any topic he might choose.

Dr. Salley then called to the attention of the Society the use of Syr. Hydriodic Acid in treatment of typhoid fever. Dr. Salley said:

As far as I know the use of Syr. Hydriodic Acid in treatment of this disease is original with me. My attention was drawn to this drug by reading a paper by Dr. Wilcox, of New York, upon its beneficial effects in the treatment of bronchial troubles and throat affections where an eliminative action was indicated. Realizing that in typhoid fever the morbid anatomy shows specific changes in the lymphoid elements of the bowel, with a beginning hyperplasia of the glands of the ileum, which will reach its height about the 8th or 10th day; and either result in resolution or necrosis, these changes being produced by the localization of the typhoid bacilli in these glands. The bacilli pass through the bowel wall, producing necrotic tissue and liberating toxins. It seemed to me that on account of the combined antiseptic and alterative action of hydriodic acid, especially upon mucous surfaces, this would be a good agent to meet these conditions. I have not been disappointed in its use, for in the treatment of over three hundred cases with syr. hydriodic acid alone, I have had a mortality of 1%. It should be begun early and the clinical evidences of its good effect are seen in two or three days after beginning its use. A tongue that is dry ,drawn together and pointed will become moist and flatten out under its influence. The bronchial symptoms which are so marked in some of these cases are markedly modified; the temperature usually stays within bounds, and the general course of the malady made milder. Of course, I practice as a routine procedure the daily washing of the rectum, to prevent fermentation, and the skin is kept scrubbed and clean. If the temperature at any time needs reducing I use cold water as a preference, but if I cannot get intelligent co-operation from the attendants and am without the services of a trained nurse I resort to the coal tar derivations. I never use the ice pack, sometimes I rub with ices. I prefer phenacetine to acetanilid in these cases. I only use them in cases where there are no untoward effects, where the lips have a good healthy color and there is produced no blueness or signs of depressed circulation. I always give the initial dose of calomel in my typhoid cases and let twenty-four hours elapse before commencing the syr. hydriodic acid. The acid is given on an empty stomach in teaspoonful doses of two teaspoonfuls every four hours while the patient is awake. I never disturb a patient in a normal sleep to give medicine. Great care should be exercised in the preparation of the acid. It should be made fresh with glycerine, and if the slightest tinge is noticed it should be discarded, as the free iodine will act in an irritating manner. In all these cases the mouth should be kept scrupulously clean by the use of some mild antiseptic and frequent rinsing, and the attendants intructed concerning the infectious nature of the disease, and absolute cleanliness insisted on in the sick chamber.

Dr. J. D. S. Fairey gave his experience in the use of H_2O_2 in the only case he had used it. Lady about 66 years, previously healthy, weighed about 200 lbs., was taken with virulent

attack of typhoid fever. After ten days the morning temperature would run 104°. Afternoon 105°, pulse 140, resp. 30. Dr. D. D. Salley was called in consultation and we started syr. hydriodic acid. Forty eight hrs. previous she had had seven hemorrhages from the bowels and forty-eight hours after commencing the acid her temperature never went over 101°. There were no more hemorrhages, pulse came down to 90, and patient was dismissed two weeks afterward. Cold pack and coal tar derivatives had no influence on the temperature.

DR. M. G. SALLEY: I do not think this should be taken as a typical case by which to judge of the use of the acid; for patient who has had seven hemorrhages is either going to recover or die without drugs. The time to start treatment with the acid is early and it takes from forty-eight to seventy-two hours to see its effect. I will state here, that judging from the mortality reports in other communities it is my opinion that we have a milder type of typhoid here than is generally found.

The Chair then called upon Dr. A. S. Hyrick for his experience with syr. hydriodic acid in typhoid. Dr. Hydrick said in part:

Typhoid fever is a specific disease for which we have no specific remedy. The typhoid bacillus produces the fever and then the toxins keep it up. I presume we are all familiar with the clinical features of the disease and shall not dwell on them. In this section of the country nearly all of our acute infections are tempered by the malarial infection, which we all more or less have, and the damage left by this infection is prominent in our cases, it being doubtful if the liver affections from malaria are ever fully remedied. Upon Dr. Salley's suggestion I have used hydriodic acid in typhoid, recognizing the fact that iodine stands third in the list of malarial antidotes. If you should get hold of a preparation that is reddened, it will act as an irritant and produce diarrhoea. If this becomes persistent I use bismuth. The intestinal tract should be washed out daily, leaving the tube in the rectum so that the water may return slowly, thereby preventing the straining and tenesmus caused by a more rapid return. The mouth is kept clean, the bedding changed frequently and skin kept active. I prefer cold water for reduction temperature where there is a trained nurse; but where one cannot be had I use coal tar derivations.

Recently I have been using acetozone water with very gratifying results, being able to report 26 cases under its administration without a death. Sometimes I find a patient who refuses to take acetozone, because it nauseates them I know of no drug to take the place of hydriodic acid. and I find my patients after its use with a better "getting up" which I attribute to the eradication of any malarial taint. I make it a point also to instruct the nurses as to mode of transmission, and insist on washing hands and disinfection of stools and urine.

I use salol only where there is a tinging of the conjunctivae on account of its dilvent effect on bile. In cases treated with hydriodic acid you never find that bronchial irritation and hypostatic congestion that is marked in some cases of typhoid. I have found acetozone, hydriodic acid, sulpho-carbolates to be our best intestinal antiseptics in the order named. I only use turpentine where I fear a hemorrhage. I use it to improve the blood condition. The ulcers rarely eat into an artery, but there is a general oozing.

DR. ABLE: I am greatly gratified for the privilege of hearing this instructive discussion and want to thank the gentlemen for the subject chosen. In our section we are comparatively free from typhoid fever; but in the cases I have treated I want to bear testimony to the efficacy of the sulpho-carbolates and good nursing. With this combination and the addition of turpentine at the end of the second week my cases usually run smoothly. Just another point on which I wish to lay stress and that is to bury the discharges and keep the dishes separated.

DR. DOYLE: My experience has been that the best treatment for typhoid fever is not to let it happen. For the past three years thanks to the efforts of Drs. D. D. Salley and Hydrick our City instituted the Manchester pail system, and we have been remarkably free from typhoid invasions. In the past six months we have had in our limits only five cases of typhoid fever, and three of these were imported. In my cases I use turpentine, guiacol, ol. eucolyptol and ol. cinnamon, given in capsules. I never use the cold pack, but bathe with warm water. Sometimes we find that after the fever is down the temperature will hop up suddenly. I then give calomel in small doses.

DR. BOWMAN gave the history of his own case, where he found that after typhoid he was having pernicious chills which persisted until he took Warbury's tinct, and opened the emunctories, which put him on the road to recovery.

DR. BROWNING said that he had had experience with one case of typhoid under the use of syr. hydriodic acid and had found it efficacious in that one. There was a marked absence of tympanitis.

Dr. Pou asked Dr. Hydrick about his diet in typhoid.

DR. HYDRICK: I enforce liquid diet, especially milk, in different forms. I always look after the milk supply and see that it is guarded. We have found liq. peptonoids to act well, that preparation with the creosote being better borne than the plain; but I prefer food prepared at home.

DR. DOYLE suggested junket ice cream where milk disagreed.

Upon motion of Dr. Jeffords the meeting adjourned with the subject of Fevers and the uses of Veratrum left open for next meeting.

COUNTY NEWS.

Abbeville.

ABBEVILLE, S. C., Nov. 7, 1905.

The members of the Abbeville County Medical Society held their regular monthly meeting Friday, Nov. 3, 1905, in the office of Dr. Gambrell.

Six or seven clinical cases were examined and the discussions on the cases were very interesting and beneficial to all present.

After finishing with the clinical cases Dr. G. A. Neuffer read an interesting paper on "The Therapeutic Value of Atropine in the Treatment of Intestinal Obstruction and Appendicitis." This paper led to a general discussion of the uses of atropine, and it is to be hoped that we will soon have similar papers on other drugs in daily use. The Abbeville Co. Medical Society has met once a month regularly since last March, and the attendance has improved with each—the doctors on the borders of the county especially showing increasing interest.

Every man in the Society is doing his part to make it a success, and to-day there is a better feeling existing among the doctors in this County than at any time during the past twenty years. This improved condition has been brought about by the frequent meetings of the Society, which gives the members the opportunity of knowing and understanding each other better.

We now feel that we are in a position to accomplish something, as the following case will show:

A few years ago our County Board of Supervisors saw fit to reduce the fee for examining lunatics from five to three dollars. At our second meeting we passed a resolution requesting the Board to restore the fee to the orginal amount. We sent a copy of this resolution to every doctor in the County and to the County Board of Supervisors, and after a short delay, with a lunatic on their hands, they did as we requested and we have had no further trouble.

At each meeting we have had a number of clinical cases to consider as well as a good paper on a timely subject. After the business is concluded we go in a body to the hotel where a sumptuous dinner is served, and here our older brethren usually keep the crowd in a good humor with their jokes and experiences that never grow old.

At our next meeting, Dec. 1st, we expect to have District Councillor O. B. Mayer, of Newberry, with us, and quite a number of invited guests from other counties in this district.

C. C. GAMBRILL, Sec.

Spartanburg.

The Piedmont Sanitarium—a new institution—has been opened in Spartanburg for the treatment of nervous diseases, chronic invalids and convalescents with Dr. R. M. Dorsey as Resident Physician. Dr. Dorsey has had an extensive experience in this class of work, having been connected with a large Sanitarium near Baltimore, Md., before coming to Spartanburg.

An institution of this kind is needed in this part of the State where the climatic conditions could not be surpassed. It should merit the support of the medical profession at large.

O. W. LEONARD, M. D., Sec.

NOTES AND REVIEWS.

SURGERY.

T. P. WHALEY, M. D.

CERVICAL RIB WITH RESULTING GANGRENE OF THE FINGERS.

In the Proceedings of the Phil. Med. Soc., June 30, Sept. 30, 1905, W Wayne Babcock reports a case. He takes issue with Murphy's idea that the gangrene is due to compression of the subclavian artery, and attributes this result rather to the angulation of the vessel produced by the additional rib, and suggests the following points:

1. Ligation or continuous obstruction of the subclavian usually results in the rapid formation of a collateral circulation, while in the ischemia, resulting from the presence of a cervical rib, there seems to be little or no tendency toward the formation of a collateral circulation.

2. Compression of one of the larger vessels of the neck usually produces a bruit which is here absent.

3. The aneurysmal enlargement or widening of the subclavian external to the rib is not in accord with a proximal point of compression.

4. In the present case the brachial pulse was well marked, although weaker than that of the opposite side. The radial artery was palpable, but pulseless, conditions consistent with an angulation or tortuosity of the subclavian so cutting down the heart impulse that an oscillation more than a distinct onward impulse of the blood in the involved terminal vessels was produced.

Venous disturbances do not result from cervical ribs alone. The subclavian vein passes to the outer side of the scalenus anticus muscle and so is not exposed to pressure. Upon the other hand, from edema or other forms of swelling in the neck or from exostoses upon the first dorsal rib, a resultant venous obstruction and edema of the arm are common.

The diagnosis may be easy or difficult. In the present case the presence of a cervical rib was early suspected, but was only clearly mapped out after repeated palpations. The coexistent deformity of the spine rendered it difficult to distinguish between accessory and normal ribs in the skiagram. Progressive circulatory changes increased by cold, unassociated with edema, and accompanied by some form of paresthesia of the hand or arm are quite characteristic evidences of the anomaly.

CHRONIC ULCER OF THE STOMACH AND FIRST PORTION OF THE DUODENUM.

Dr. Wm. J. Mayo contributes a classical article upon this subject in the Oct. 21st issue of the *Journal A. M. A.*

After reciting the death rates without operation in different large hospitals, and the ridiculously low percentage of cures by medical treatment, he states that is his last 150 cases the mortality was only 3%, and in the last 81 cases of benign disease there has been but one death. As regards the relief of symptoms, he states they are "doing no kind of surgery to-day which

gives more pleasing results in properly selected cases."

He states that the method of relief which has the largest field of usefulness consists of gastrojejunostomy, uniting the jejunum to that portion of the stomach on a line perpendicular to the cardiac orifice. This is usually the most dependent portion. This is accomplished by drawing that portion of the stomach through an opening torn in the transverse meso-color.

THERAPEUTICS AND MATERIA MEDICA.

J. L. NAPIER, M. D.

TONSILLITIS, PHARYNGITIS.

F. P. Jones treats tonsillitis with phytolacca decandra, 10 to 30 drops (according to age of patient) to 4 oz. of water. Teaspoonful every two hours. If there is fever add aconite, bryonia and atropia. In acute or chronic inflammation of throat phytolacca alone is a specific.

20 per cent. guaiacol in glycerine to be mopped over the tonsils and pharynx, and guaiacol rubbed externally over the tonsils, is almost specific in above inflammations.

PREDIGESTED FOODS.

To the issue of the *American Journal of the Medical Sciences* for April, 1905, Edsall and Miller contribute a research on this subject. They conclude that bean flour, in which the starch is predigested by means of a diastatic ferment, seems to be well digested and absorbed by infants and adults. An extremely concentrated food may be given in this way in fluid and partially digested form; a 20-per-cent. solution, although fluid, is practically equivalent to beefsteak in nutritive value. Its influence upon the digestive tract in infants in the cases studied was usually distinctly favorable, and its influence upon metabolism in infants and adults is at least equal to that of milk.

CONTRAINDICATIONS TO DIGITALIS.

This drug, according to Satterthwaite, is positively contraindicated in cardiac neuroses, like the "tobacco heart" and is absolutely dangerous if there is a tendency to apoplexy. If it acts badly, the warning signs are nausea or vomiting, small irregular pulse, dyspena and diminished urine.—*Exchange.*

ACUTE DYSENTERY.

Buchanan gives a sodium sulphate solution (dram to ounce of fennel water), one dram four to eight times daily, continuing the medicine for a day or two after the blood and mucous disappear. He keeps the patient on a low diet of boiled milk, tyre and rice water until the stools become solid.

¼ gr. doses of Protoiodide of Mercury repeated every two hours, until there is a free bilious discharge from the bowels. Also 20 drops adrenalin chlo., 1 to 1,000, in half ounce of water, injected into the rectum, (to be repeated if necessary), if there is much tenesmus will abort most acute attacks of dysentery.

A NEW USE FOR COTTON WOOL.

W. Blair Bell refers to several cases in which he has used cotton wool in order to carry along foreign bodies which had been swallowed. One child had swallowed a gold brooch. The writer teased up very finely a small handful of absorbent wool, part of which he administered in milk and part in jam sandwiches; some hours later he ordered a dose of castor oil. In the morning there was a copious motion, in which were found several egg-shaped lumps of cotton wool, in one of which the brooch was closely packed.

RECTAL ANESTHESIA.

A. Krongeline (*British Medical Journal*, Feb. 25, 1905) recommends rectal anesthesia by ether vapor, in cases of operation on the head and neck especially. The ether flask is placed in water at 40° C., and connected with a rectal tube supplied with a receiver to collect the condensed liquid ether. In two or three minutes th patient's breath smells of ether, and soon afterwards anesthesia is induced. If this is not sufficiently deep a few whiffs of chloroform may be inhaled.

OBSTETRICS AND DISEASES OF CHILDREN.

LANE MULLALLY, M. D.

INTRA-UTERINE INJECTIONS.

(*International Journal of Surgery.*)

Dr. Fabre, of Lyons, recommends in cases of puerperal infection the following solution:

Distilled water, 1 quart; essence turpentine and alcohol, of each, ½ ounce.

When the infection becomes general he advises turpentine internally and subcutaneously. Giving as much as a drachm in capsules, or the following formula for subcutaneous infection: Sterilized saline solution (7-1000) 1 quart spirits of turpentine and alcohol of each 75 minims.

He claims remarkable results.

THE NATURE OF PUERPERAL ECLAMPSIA.

(*Jour. A. M. A., Oct.*, 1905.)

In an editorial it is noted that Harlitz has recently reviewed the work of Jurgens, who described the peculiar changes in the liver in puerperal eclampsia. That the liver of eclampsia, with the congestion, infarctions and degenerations presents a picture hardly ever seen in any other diseased condition, and that it is important to note that acute or chronic nephritis as a rule is absent.

The editorial goes on to say that many of the older theories have been abandoned and that eclampsia cannot be identified with uremia. That the theory of auto-intoxication dependent on pregnancy enjoys wide support.

That the theory of eclampsia being due to absorption by the mother of the products of foetal metabolism has many supporters, especially among clinicians.

That the theory advanced by Schmorl of Dresden of eclampsia being due to coagulative substances produced in the placenta is receiving support, and the theory is being subjected to experimental testing.

The editorial closes by saying: "It is interesting to note, however, that the placental theory of eclampsia seems to point the way to rational therapy."

THE AFTER EFFECTS OF DIPHTHERIA ON THE HEART.

(*Jour. A. M. A., Oct.*, 21.)

Dr. Franklin W. White calls attention to the fact that in diphtheria the heart muscles and the nerves which control it are the seat of certain changes which more or less seriously disturb its functions. The signs of which have been observed at the height of the disease and during convalescence.

White says much less is known of the after effects of the poison of diphtheria on the heart. After a carefully prepared and exhaustive article on the subject, in which numerous cases are reported showing various types of the disease, he closes with the following conclusions:

1. The cardiac disturbance after diphtheria usually presents the picture of a mitral insufficiency with irregular heart action, and a few symptoms. Occasional cases have rapid pulse or cardiac irregularity without any other signs.

2. Moderate disturbance of the heart is very common after diphtheria, and in a large number of cases persists from two to six months after the original illness.

3. In many cases the cardiac lesion does not clear up in the first half year, but lasts much longer; some ultimately recover, others probably do not. The duration of the heart trouble is usually in proportion to the severity of the original illness.

4. The fact that children often have few heart symptoms after diphtheria must not mislead us as to the importance of the injury to the heart.

5. Cardiac disturbance of long duration following diphtheria may be entirely recovered from It is not necessary to give up hope of recovery in individual long cases.

6. The treatment of this condition consists in a sufficient period of rest in bed, and then in watching the effects of mild exercise on the heart for several months at least and grading it to meet individual requirements.

SCHEME FOR THE SANITARY CONTROL OF THE MUNICIPAL MILK SUPPLY.

(*Am. Medicine.*)

Goler advocates establishing a bureau for inspection of milk supply for cities.

Physicians and scientists appointed by medical societies should formulate rules regulating the production and distribution of milk.

Goler says they should through inspectors regulate; 1, character of stable and feed of cattle, health of milkers and care of utensils.

2. A negative tuberculin test. 3. A bacterial standard, not greater than 10,000 bacteria per cubic centimetre.

4. A nutrative value of 12.5 per cent. of solids, of which 4% must be fats.

That the entire supply should be under one head with the power to license, and that laws be made rendering it an offense punishable by fine or imprisonment to bring milk into city for sale that has not had sanitary seal put upon it. That until cities adopt these measures our children and ourselves will be exposed to the dangers that arise from dirty, disease-breeding milk.

GYNECOLOGY.

CHAS. M. REES, M. D.

FOREIGN BODIES IN THE UTERUS.

E. Toff, of Bucarest, (American Gynecology, Vol. II., 1903), in 1902, reports the following rare case: A patient 31 years of age had an incomplete abortion in the third month of her fourth pregnancy. On account of retention of the placenta and copious hemorrhages, she was curetted, and the uterus was packed with several iodoform gauze tampons which were removed on the following day. From that time the patient suffered more or less intense pain in the lower abdomen and back, with exacerbations during menstruation, the latter occurring quite regularly. In the intermenstrual periods she complained of a copious vaginal discharge, which did not yield to any sort of local treatment. Fever was not noted at any time. Toff saw the patient for the first time one year after the treatment. Examination revealed the uterus in anteversion, hard, enlarged and sensitive to the touch; the vaginal portion was considerablly hypertrophied and inflamed, and a thick mucus of grayish-green color was flowing from the os. After dilatation Toff succeeded in extracting from the uterus cavity a firm, compressed and decomposed strip of gauze, 30 cm. and about 3 cm. wide. Perfect recovery ensued. The nature of the foreign body and the length of time during which it was harbored in the uterus without lasting ill-effects render this case particularly interesting. In a second case the author extracted from the uterus a sharply pointed chip of a peculiar sort of wood, which, in Roumania, is frequently used for producing abortion. Garnecki (*Deutseche Medic. Wochenscho*, 1901,) reports a singular case in which a foreign body obstructed parturition. He was called to attend a case of labor. On his arrival at the house, the husband of the patient told him that a "tin-box" would have to be removed from the genital tract before the baby could be born. An examination showed: Woman 27 years, well developed, pelvis normal, os uteri dilated to the size of a fifty-cent piece, head presentation, child alive, membranes ruptured, uterine contractions satisfactory. Between the head of the child and the os uteri lay a foreign body, the supposed tin-box. On account of this obstruction the head was not able to dilate the os completely and a spontaneous termination of parturition seemed under these conditions impossible. Therefore, removal of the foreign body from the uterine cavity was decided upon. The box was turned until the lid came into view. The lid was then taken off and removed. It was now possible to grip the body of the box with forceps and to extract it by careful rotary movements. The box was cylindrical, had a diameter of 10 cm., and was 4 cm. high. The labor was finally ended by forceps, after two dense fibrous sears in the margin of the os uteri had been incised. The child

was alive and fully developed. Puerperium was normal. On inquiry the patient gave the following remarkable explanation for the introduction of this box: When 12 years of age, her menstruation appeared for the first time. In order to prevent a subsequent hemorrhage she introduced this box, in which she kept pins, into her vagina. Nevertheless, menstruation was always regular. Later she tried to remove the box, but did not succeed. She never consulted a physician, and never experienced any inconvenience. She married at twenty-five. Coition was never interfered with and the husband was unaware of the existence of the box up to this confinement. When married five months she had a miscarriage in the fourth month of pregnancy. Up to this time she had always felt the box in her vagina, but after the abortion, to her surprise it had disappeared. She was not able to explain the fact to herself, but was certain the box had not fallen out. Thus it is beyond doubt the box subsequent to the abortion slipped into the uterine cavity. It had been in the vagina thirteen, and in the uterus one and one half years without producing any noteworthy disturbance.

RETROFLEXIONS OF THE UTERUS.

Kovwer (*Fentralblatt für Gynä-Kologie*, 1903,) found 239 cases of retroflexion in 2,800 gynecological cases (8.5 per cent.) of which 210 were treated. In 135 the uterus was movable, and in 75 adherent. Of the latter only 7 were operated upon, the remainder being treated with tampons. Thirty-one patients were subsequently able to wear pessaries; 25 per cent. were cured. One hundred and twenty cases of movable retro-displacement were treated with pessaries; in 6 no treatment was necessary, and 9 patients operated upon, 10 per cent. were cured. Only 16 out of the 239 patients (6 per cent.) were operated upon. Alexander's operation was preferred in movable retroflexion, 9 operations being recorded with 6 cures. The writer notes in the 5 abdominal operations for adherent retrodisplacement not a single patient was permanently relieved. Hs is entirely opposed to the surgical treatment of retroflexion, since by no method can the uterus be restored to its normal position. This is possible in some cases by the use of pessaries. Young girls should be treated as little as possible.

Dr. Henry C. Coe, of New York, remarks on the above:

"The frank pessimism of this writer is in striking contrast with the enthusiastic reports of most surgeons. In fact his skepticism is so avowed to awaken the suspicion that he is an extremist. Between the views of those who denounce the use of pessaries and the opinions above expressed, there is certainly a middle course which is safer than either extreme."

LARYNGOLOGY AND RHINOLOGY.

W. PEYRE PORCHER, M. D.

"THE OCULAR ORIGIN OF MIGRAINE."

In the multitude of counsel there is wisdom, but when such a variety of etiology is ascribed to very similar symptoms in the same organ, to arrive at the true causes a mind is required "Which can distinguish and divide a hair twixt north and northwest side."

Just herein therefore lies the supreme talent of the physician. To be familiar with the results obtained by surgeon and specialist, to sift out that which is premature, illy digested or spurious, and to use persistently and intelligently that which to his well-balanced judgment is rational, sound and according to the laws of nature.

There are unquestionably many reflex nasal phenomena in the eye, ear and other organs which we are unable to explain, as for instance, the effect of an operation in one nostril upon the eye or ear of the same side and sometimes of the other side.

In the last issue of the *Journal* of the S. C. Medical Association evidence was given of many pathological conditions, errors of refraction, etc., in and around the eye, dependant upon diseases of the accessory sinuses of the nose.

In the *Journal of the American Medical Association*, Oct. 28th, 1905, appears an article by Geo. M. Gould, of Phila., on "The Ocular Origin of Migraine," which amounts to a fierce arraignment of the medical profession and several medical journals for their failure to attribute at least the majority of headaches to refractive errors and to prescribe glasses for their correction. The impression left upon the mind after reading the article is similar to that of the small boy who has been whipped by a very indulgent father and wonders what the cause of the licking was. After the reaction we begin to think that there might have been a little headache which slipped in as a result of drunkenness or constipation or some other cause, but which should hardly be considered. We should rather harness up every mother's son and daughter with glasses to correct the refractive error irrespective of that which produced the error.

I quote here a brief extract to show the tenor of this paper:

This leaves simply headache, combined with nausea or vomiting, which, of course, should simply be called "sickheadache." But never did two patients have the same kind and degree and continuousness either of headache or of stomach rebellion, and we are landed in a farcical *reductio ad absurdum*. But the solemn neurologists do not know it, and they keep crying that any described case is not migraine, not "typical," doesn't fit in their boxes, is hysteria, nonsense, a contemptible oculist's whimsy. Some of these gentlemen assume the air of Mark Twain's jumping frog, make great exertions, but they never get "forrarder" by one inch. They fling a bombastic word, "psychosis," "dementia præcox," "hysteria," "neurasthenia," etc., at the poor patient, order her to the sanitarium or to Europe, prescribe bromids, placebos, or the rest-cure; they then prepare the next edition of their text-book in which ignorance of nervous diseases vies with therapeutic nihilism. If the oculist says he knows a cause and a cure for many cases, Dr. Dana will inform him that "the only real mental affection connected with eye strain is the symptom-complex with grandiose ideas on the part of ophthalmologists." Dr. Fisher will also add:

"The oculist is not expected to have such a knowledge of these diseases, either pathologically or clinically, as would make his opinion of any special value, and, therefore, his statements and opinions should be taken only in such a sense as

from his limited horizon of observation a partial understanding of these conditions renders possible."

Shakespeare and Molière in collaboration could not do justice to the antics of some of our modern neurologists, neither to some of our defunct commercial medical journals, whose ghosts are sometimes draped so realistically by their publishers that one would almost think them really medical and as much alive as the famous Mr. Partridge and his almanac. The *Medical Brief*, the *Medical Mirror*, the *Philadelphia Medical Journal*, the *New York Medical Journal*, the *Medical News*—how from their graves they hate and belabor the oculists! The *News*, even after its death, was heard to gibber that at least 20 per cent. of our citizens have gastric ulcer which the surgeon should excise at once. Think of 16,000,000 American citizens being ordered to be gastrotomized in the next 24 hours! But that, of course, is better than spectacles!

When one carefully observes this attitude of mind it becomes evident that these opposers and ridiculers are most anxious to find that the sufferers from migraine, epilepsy, neurasthenia, hysteria, melancholia, indigestion and headache are, thank God, incurable. Their fury in ridiculing the refractionist, their blindness to his truth, their immoral misrepresenting and misreporting him, their editorial malevolence, are indicative of "much." If they had a spark of true scientific spirit, they would be glad to examine a theory and the facts supporting it which might bring some light into their darkness as to the origin of "migraine." If they had the least therapeutic zeal they would like to cure some of their patients of diseases they have all admitted incurable. If they had the least pity in their hearts of human suffering they would grasp at even a slight possibility of lessening the agonies of millions of their fellow-citizens. But of some neurologists and editors of defunct commerciomedical journals one scarcely expects humanity or medicine. What, then, shall be said of oculists who join them? Nothing, except to wonder what kind of refraction they are doing, not to have seen every day their patients cured of these diseases by the glasses ordered. Were there a scintilla of the true investigator's spirit in their minds they would themselves put on their own noses the glasses that we say cure these patients, and test the theory. In a week they would have all the migraine needed, at least, to reduce even them to silence. I will guarantee to produce by this laudable human vivisection experiment, in the skeptics and cynics, any desired degree of "neurosis," "migraine," "neurasthenia," "hysteria," "melancholia," "dementia præcox," "degeneration," "nervous break-down," "neurotic predisposition," "katatonic state," "major psychosis," "melancholia of involution," "psychical tonus or contracture," "forme fruste," manic depressive insanity," "confusional psychosis," "pseudoneurasthenia," "mysophobia," "topoalgia," "neurasthenical syndrome," and the rest. And all with a pair of 0.75 D. cylinders! The committee appointed must be composed of non-presbyopes and made up equally of neurologists, the editors of defunct commerical medical journals, and ultraconservative "opthalmologic surgeons."

There is hardly a case of severe eyestrain reflex that, viewed in the life-history, does not show a persisting morbid cause acting on the organism, as it were, from without. Balzac said that when he did not have head misery he had digestive wretchedness, and *vice versa*. In the majority we see this cause attacking one organ after another, upsetting the normal functions of the mind, brain, stomach, liver, heart, lungs, skin or eliminative organs, and all according to the kinds of ametropia present and the amount of work demanded of the eyes. Eye-rest at once gives relief."

It is extraordinary that in an article of this character there should be no mention of many causes of eye strain and refractive errors and the advisability of removing these causes before applying glasses for their correction. Certainly every rhinologist will testify that many diseases in the nose are productive of changes in the configuration and condition of the eye; patients frequently state that their glasses which they formerly wore with comfort became too strong for them after tumors and other growths had been removed from the nose and also that the presence of abscess or inflammation of the accessory sinuses often causes myopia, hyperopia or astigmatism from an elongation or shortening of the eye ball or an alteration of the curvature of the cornea Surely the Latin maxim, "causa sublata tolliter effectus" should be applicable here. The cause being removed we remove the effect.

ETIOLOGY OF CATARRH.

In the *Journal of Laryngology* for September, 1905, Dr. B. M. Berens of Minn., writes a paper on "Observations on Catarrh and Predisposition or Reflex Versus Catarrh Theory," in which he undertakes to prove that "Predisposition to functional and pathological disturbances of the eye, ear, and respiratory tract consist in the irritation of the nasal nerves which causes dilatation of the arterioles with hyperemia of the capillary system."

He says: "As a proof of this I shall explicitly state that no other mode of treatment than operative instrumental for removal or reduction of hypertrophies and cauterization for eliminating irritation has been employed in cases which I shall report.

In order to minimize the number of cauterizations, I have striven to follow the track of nasal nerves, whose fibers were involved in the irritation and sought to centralize the application of the cautery in order to be sure of cutting off conduction to the vaso-motor centers, but when we remember that the sensory and sympathetic nerve supply of the nasal mucosa forms a network of intricate and wide extent, also occupying localities anatomically difficult of access, we will have to be content with what improvement of circulation can be obtained by eliminating hyperesthesia wherever it is possible. Besides the extent of cauterization in order to prevent regeneration of the nerve, and therewith its conductibility is another problem to be solved; in short, the cauterization considered as a therapeutical agency has as yet a haphazard look.

Time and again I have been asked by fellow physicians whether I can always locate the origin of reflex congestion in the different localities. The intricacy of nerve filaments in the nasal mucosa precludes the possibility of doing this with any degree of exactness, and for this reason I have

followed the rule, which I recommended also in my former paper, to use the condition of the throat as a gauge, by which to judge whether all irritation in the nostrils has been permanently removed or not. However, as a general rule, congestion of the eyes will be due to irritation of the naso-ciliary nerve fibers, and the most hyperesthetic spots will be found in the upper part of the nostrils, both on the external and septal sides. A pressure with the probe here and still more an application of the cautery point will cause an increased congestion of the eye and lacrimation, but if the conductibility has been cut off, it will be succeeded by a diminution of the original congestion. The immediate increased congestion can be explained only as a result of the increased irritation of the central part of the nerve. The same result is to be expected if we wish to remove congestion of the ear, and is the most reliable evidence that we have hit the nasal nerve filaments, the irritation of which causes congestion of the ear. Subjectively, it has also been verified in many instances by the patient's complaint of increased tinnitus or fulness of the ear. Congestion of the ear is most marked in the upper part of the drum-head, along the manubrium and frequently in the external meatus close to the drum-head. The localities in the nostril causing reflex congestion from irritation are, as a rule, the maxillary side of the middle turbinate and corresponding part of the maxilla itself.

The author here reports fourteen cases of inflammatory conditions of the lids and conjunctiva and even intractable phlectenular keratitis which were relieved by applications of the electric cautery, to different areas in the nose, with beneficial results."

Of the deep seated affections of the eye he says: "Of deep-seated affections of the eye I have not met with any except the one of amblyopia, which was reported in my first paper, and one of glaucoma, which was benefitted by removal of a piece of the middle turbinate.

While I am not in position from these two cases to make any strong claim for deep-seated affections of the eye being due to nasal irritation, it cannot be denied that the immediate improvement which took place after nasal treatment is suggestive of such a cause."

He next reports six cases of tinnitus and slight deafness in which more or less complete relief followed the removal of hypertrophied mucofibrous tissues and the cauterizing of hyperesthetic areas in the nose.

"The possibility of improving circulation in the eye, ear and upper respiratory tract by cauterizing certain hypersensitive areas of the nasal fossae allows of only one conclusion, viz: that irritation of the nasal nerve fibers constitutes the main factor of causing reflex congestion; and, further, the fact that improved nutrition of the nasal tissues advanced *pari passu* with elimination of hyperesthesia proves that the underlying pathologic agency of this malnutrition can have been nothing but a reflex congestion, maintained by the paretic state of the vaso-motor centers, which superintended the circulatory system. The nasal mucosa abundantly supplied with sensory and sympathetic fibers is from earliest childhood exposed to climatic vicissitudes, and mechanical injuries of impure air, which strike those parts of the nostrils most severely, through which the inspiratory air current passes, and for this reason we detect the earliest manifestations of hyperesthesia in the upper part of the nostrils on the septal and ethmoidal side and also on the anterior and inferior surface of the middle turbinate. Irritation once started is therefore the foundation of congestion and exudation, and a further encroachment in the nerves by hypertrophic or hyperplastic products is produced, by which the paretic condition of the vaso-motor centers is maintained.

If branches of the naso-ciliary and Vidian nerves are involved in the irritation, the important organs of vision and hearing are endangered.

In order to illustrate the fact that it is nerve irritation, which causes congestion, I shall again call attention to the experiment of causing pressure by the probe on different areas of the nostrils. Applied on an indolent spot, there will be no reflex, while pressure on a hyperesthetic spot will call forth increased congestion of the lids, lacrimation, congestion and sensation of fulness in the ear, headache, etc., symptoms which can be explained only on the theory of vaso-motor paresis brought about by increase of irritation.

The opposite experiment of stimulating the vaso-motor centers, by applying cocain or adrenalin on the nasal mucosa causes contraction of the arterioles, congestion disappears, and returns when the effect of these drugs has passed off.

The cautery point destroys the irritated nerve filaments and the permanent improvement of circulation gives evidence of elimination of a factor which has held the vaso-motor centers in a paretic state. Consequently predisposition to acute inflammation is also removed.

The vasomotor centers being primarily involved, it follows from necessity that:

1. The theory of catarrh or primary affection of the mucosa is untenable, and also
2. The theory of inflammation by continuity of tissue.

THE INFERIOR TURBINATED BONE; ITS FUNCTION, DISEASES AND TREATMENT.

Phillips, in the *American Journal of the Medical Sciences*, for July, 1905, concludes his paper as follows: (1) Hypertrophy and deformities of the inferior turbinated bone may interfere with nasal respiration; (2) they may interfere with drainage; (3) they give rise to pressure symptoms and subsequently to mental depression; (4) they prevent proper intranasal hygiene; (5) true hypertrophy must not be confused with congestion or inflammation; (6) hypertrophic tissue and portions of the bone should be removed when symptoms and appearances indicate pressure, altered secretions, interference with drainage, and the normal functions of the nose; (7) escharotics should never be employed; (8) the galvanic cautery is of doubtful efficiency; (9) a clean cut by means of specially devised scissors through both soft tissue and bone is the best method of treatment; (10) the snare offers the best method for the removal of posterior hypertrophies; (11) the resulting wound should be protected with a thin layer of gauze, moistened with a twelve per cent. solution of acetotartrate of aluminum to which a few drops of weak adrenalin solution may be added.—*Extracted.*

MASSAGE OF NOSE IN HAY FEVER.

Denker reports that he has absolutely cured eight hay-fever victims by massage of the mucous lining of the nose. By this means he was able not only to cure an existing attack, but to prevent its recurrence in following seasons. He first anesthetizes the sensitive mucosa by swabbing it with a mixture of 1 part cocain and .01 part adrenalin in 10 parts distilled water, using a cotton-wound nose sound for the purpose. The massage is done with this sound dipped in a 10 per cent. antiseptic oil. He commences with slow, light stroking of the inferior turbinate, gradually increasing the rapidity and the pressure and passing to the middle turbinate, and thence, if possible, to the superior, returning over the mucosa of the septum. The massage is completed in two or three minutes at first and in from three to four as the patient becomes used to it. The procedure is repeated through each nostril every day, supplemented, if necessary, by instillation of diluted laudanum in the conjunctiva sac. He thinks that it is more logical to remove the cause than to attempt to combat the established affection by antitoxin or otherwise.—*Extracted.*

PATHOLOGY AND BACTERIOLOGY.

G. MCF. MOOD, M. D.

YEAST IN TUBERCULOSIS.

W. R. Huggard and E. C. Morland (*Lancet*, June 3, 1905—*Monthly Cyclopoedia of Practical Medicine*, Aug., 1905) give results of their observation of the effect of yeast taken internally in tuberculosis. In almost every case some improvement was noted. "In 5 casse, the tubercle bacilli disappeared from the sputum, and the disease was seemingly arrested. In 7 cases marked improvement took place. In 11 cases of medium severity and doubtful prognosis, all but one showed improvement. Twelve advanced cases of bad prognosis appeared to be benefited, at least for a time." The yeast is supposed to act partially by the bactericidal effect of its nuclein, and partly by its nuclein causing a leucocytosis. Several kinds of yeast were used, and given in doses of 2 or 3 grams once a day in cold or tepid milk or water. "Some patients noticed no influence; others felt a sense of well being, while a few had a feeling of exhilaration." It appeared to have no influence on the temperature of the patients.

THE SPIROCHOETA PALLIDA.

Antonia Fanoni (*N. Y. Med. Jour.* and *Phila. Med. Jour.* Nov. 4, '05), reports 15 cases of syphilis, 13 in primary or secondary stages, 2 in tertiary stage; and two (2) cases of non-syphilitic character examined by him for the Spirochoeta Pallida. The organism was found in 11 of the 13 cases of primary or secondary syphilis examined. Examinations of tertiary lesions (gummata) were negative. Both of the control cases (non-sylpilitic in character) were negative. All the chancres examined (7 in number) showed spirochoeta. The spirochoeta was found also in a hypertrophic and congested tonsil in a case of secondary syphilis. "The organism was also found in the inguinal glands, in papules, in condylomas and in mucous patches." In the examination of two primary, and one secondary lesion, the organism was found alive in hanging drop preparations. The organism was not found in two cases which had been under anti-syphilitic treatment. He considers this as pointing to its protozoal nature, its disappearance being accounted for, on the same principle as that of the plasmodium malariae from the blood after the adminstration of quinine. His examinations included chancres, enlarged inguinal glands, condylomata, papules, mucous patches, gummata, material from tonsils and urinary sediments, chancroids and large chronic ulcers of the leg were examined, for control. The spirochoeta pallida (Schaudin and Hoffman) is a delicate, long, thin, filamentous, spiral or corkscrew shaped organism, with pointed ends, very faintly refractile and markedly mobile. In size they vary from 14-10 microns in length, and .25 or less micron in width. The spiral turns are numerous and quite regular. The organism stains with difficulty, and is seen only with high powers of the microscope. The organism has not been accepted as the specific etiological factor of syphilis.

CORRESPONDENCE.

BELLADONNA PLASTER IN HERPES ZOSTER.

MR. EDITOR:—

Referring to the article by Dr. Robinson reproduced in your current issue from the *New York Medical Journal*, in which the subject of Herpes Zoster is discussed, the recommendation of internal treatment in connection with aseptic and antiseptic applications recalls an experience of my own which will probably prove interesting.

Some twelve years ago, Dr. George Walker, then of this place, now Assistant Professor of Surgery at Johns Hopkins University, had in charge one of the most severe cases of Herpes Zoster that has ever came under my observation. The eruption had extended over the entire trunk, and the suffering of the patient was intense.

After exhausting his knowledge of the treatment of this disease without appreciable results, Dr. Walker advised a consultation with Dr. Thomas W. Campbell, also of this county. Dr. Campbell recommended that the eruption be cleansed with diluted alcohol and covered with belladonna plaster. The suffering of the patient was relieved at once, and within twenty-four hours the improvement was very noticeable. A few days later recovery was complete.

Since the experience referred to, I have had numerous cases of this troublesome disease. I have used belladonna and opium plasters with uniform success. My method is to cleanse the eruption with diluted alcohol and boracic acid, and then cover the eruption with a plaster, allowing the plaster to extend a half inch, or such a matter, over the affected surface on the unaffected surface. The plaster should be applied hot to each new patch as it appears, and allowed to remain as long as it will stick.

M. J. WALKER, M. D.

Yorkville, S. C., Oct. 28th, 1905.

MISCELLANY.

CONCERNING THE GEOGRAPHIC DISTRIBUTION OF THE YELLOW FEVER MOSQUITO.

The proper consideration of this now all-important species must necessarily be divided into two sections; first, the actual present distribution of the species so far as it can be ascertained; second, the exact limitations of the regions in which, if accidentally introduced, it may reasonably be expected to propagate and to become perfectly established. For immediate quarantine purposes the first of these is the most important, but looking to the future, an exact knowledge of the regions which must be included in the second category is obviously scarcely less important.

United States.—*Virginia*: Virginia Beach. *Kentucky*: Lexington. *Illinois*: Cairo. *Tennessee*: Nashville. *Arkansas*: Hot Springs. *Louisiana*: Ruddock, New Orleans, Baton Rouge, Napoleonville, Hammond, Shreveport, Franklin. *Mississippi*: Pass Christian, Summit, Quarantine Station, Biloxi. *Georgia*: Atlanta, Pelham, Augusta, Savannah, Brunswick. *Florida*: Barrancas, Key West. *Texas*: Galveston, Houston, Victoria, San Diego, Tyler. *South Carolina*: Charleston, Sullivan's Island. *California*: San Diego, Angel Island (Carter). *Maryland*: Baltimore (Carter)—breeding in fresh water on fruit wharf. *North Carolina*: Beaufort, Winston.

From the above it will be seen that although the actual localities which may specifically be designated from the United States are comparatively small in number, and that the actual localities from other parts of the world are equally sparse, we have still sufficient facts to enable, in my opinion, a sound generalization, both as to probable actual occurrence and as to regions in which the species will readily establish if once introduced. It will be noticed that all of the occurrences within the United States, except Nashville, fall within the limits of what are known as the tropical and lower austral zones. These life zones include practically all of the southern United States which border on the Atlantic Ocean and the Gulf of Mexico, with the exception of those portions of Virginia, North and South Carolina, Georgia, and Alabama, which constitute practically the foothills of the Appalachian chain; in other words, western Virginia and North Carolina, the extreme northwestern corner of South Carolina, the northern part of Georgia, and the extreme northeastern corner of Alabama. Further than this, the lower austral zone includes the western half of Tennessee, the western corner of Kentucky, the extreme southern tip of Illinois, the southeastern corner of Missouri, and all of Arkansas except the northern portion. It also includes the southern portion of Indian Territory, southern Arizona, and some of northern Arizona, and southern strips in Utah, Nevada, and California.

In the greater part of the territory thus indicated, and *where the climate is not too dry, Stegomyia fasciata* will, with little doubt upon close search, be found.—L. O. Howard, Ph. D., in *Public Health Reports.*

AS TO CHANGE OF CLIMATE FOR THE CURE OF CONSUMPTION.

"Climate in consumption is a will-o'-the-wisp. It is the end of the rainbow with its pot of gold. It is ever just a little beyond. It rests in Colorado, New Mexico, Arizona, California. Like children in their simple faith, chasing the

rainbow's vanishing end and delving for treasures where once it stood, our patient pursues his phantom till, worn and wasted, weary, but hopeful still, he falls asleep and wakes to learn that the magic end of the bow of promise rests upon the mystic shores of the spirit land."

While certain climates may be preferred for certain consumptives, it is nevertheless the consensus of opinion of the leading authorities of the day that there is no climate which has a specific curative power over consumption. Many, including Dr. S. A. Knopf, of New York, an acknowledged expert on the treatment of consumption, hold that cures effected in the home climate in which the patients will have to live and work after their restoration to health are more lasting and assured than cures obtained in more genial climes. While it is known that patients cured in the salubrious regions of the West have been able to return and live in Illinois and eastern States from whence they came, it is also known that others can never leave the climates in which they recovered, for on their return to their own State their disease recurs.

There are many reasons why an attempt should be made to cure a consumptive patient at or near his own home if it be in a climate not unsuitable for the cure of consumption; many reasons why he should not be sent a long distance from home.

Separation from friends depresses the patient. "Homesickness" is a malady which often baffles the physician.

The expense of the journey is a serious drain on his resources and is often incurred unnecessarily. As has been aptly stated by the State Board of Health of Maine, "many patients could be well put on the road to recovery in their own State at a cost which would barely defray their expenses to and from Colorado and Arizona."

The fatigue of a long journey is bad for a consumptive.

The lack of home comforts in a distant State and the inability often to obtain proper accomodations unless at a prohibitive price naturally handicap the best efforts made to cure the patient.

The expense of living in the States having "specific" climates is great. Even if his disease can be cured the patient may not be able to return to live in his home State.

If the patient must work he can find no occupation. Too many have preceded him.

It is known that in certain Western States doors are closed to the consumptive and legislation against him is contemplated.

For the wealthy patient, who can be surrounded by his relatives and friends wherever he goes, a change of climate may be desirable; for the poor patient—and consumption is often a disease of the poor—a change of climate frequently quickens an unfavorable termination of the disease.

The consumptives of Illinois should not forget that their disease can, as a rule, be cured in Illinois if it can be cured anywhere.

Consumption has been cured in the past and is still being cured in Massachusetts, Rhode Island, New York, Pennsylvania and other eastern and central States. Not one of these States offers special advantages in altitude, temperature, sunshine, air or soil, or other elements necessary to the successful treatment of consumption which can not be enjoyed in Illinois.

It is often not so much the best climate for the disease as the best place for the consumptive.

Before changing climate the consumptive should obtain competent medical assurance that the change will be beneficial. A climate or altitude which is suitable for one consumptive may cause the speedy death of another. An extremely hot climate is often not only more exhausting, but more dangerous to the consumptive than an extremely cold climate.

The consumptive should not go to any State without first informing himself as to the exact locality he is to visit, and the certainty of securing suitable accommodations in hospital, hotel or boarding house. A neglect to do this has caused un-

told trouble and misery to consumptives, and has resulted in the death of many unfortunates. The State Board of Health will gladly furnish any consumptive in Illinois with a list of the sanatoria and hospitals for consumptives in any of the eastern, southern or western States, with such information regarding the climate and altitude as may be desired.—*Illinois State Board of Health Pamphlet on Consumption.*

AFFILIATED COUNTY SOCIETIES WITH MEMBERS.

(The Secretary begs to announce that this list will appear for several issues, in order to make the same as complete as possible.

He requests that he be notified promptly of any errors or omissions.)

ABBEVILLE.

(ABBEVILLE COUNTY MEDICAL SOCIETY.)

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J. M. Richardson.....Anderson.
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W. R. Clyburne.....Camden.
W. J. Dunn.....Camden.
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L. H. Jennings.....Bishopville.
J. B. Manning.....Bishopville.
B. McLaughlin.....Bishopville.
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E. M. Dibble.....Marion.
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L. O. Mauldin.....Pickens.
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J. O. Rosamond.....Easley.
H. E. Russell.....Easley
W. A. Sheldon.....Pickens.
W. A. Tripp.....Easley.
E. B. Webb.....Liberty.
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T. M. DuBose.....Columbia.
S. B. Fishburne.....Columbia.
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J. W. Allen.....Enoree.
H. R. Black.....Spartanburg.
L. J. Blake.....Spartanburg.

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G. A. Bunch.....Spartanburg.
W. J. Chapman.....Inman.
[R. F. D. No. 2.
W. P. Coan.....Spartanburg.
[R. F. D. No. 5.
A. D. Cudd.....Spartanburg.
Geo. R. Dean.....Spartanburg.
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J. P. Dupree.....Clifton.
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A. R. Fike.....Spartanburg.
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R. G. Hamilton.....Converse.
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D. R. Norman.....Fair Forest
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H. B. Tate.....Pacolet.
John O. Vernon.....Welford.
Lee J. Wall.....Spartanburg,
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(SUMTER COUNTY MEDICAL SOCIETY.)

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C. P. Osteen.....Sumter.
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J. C. Spann.....Sumter.
H. M. Stuckey.....Sumter.

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(UNION COUNTY MEDICAL SOCIETY.)

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T. R. Carothers.....Rock Hill.
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J. E. Massey, Jr.....Rock Hill.
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W. G. Stevens.....Rock Hill.
M. J. Walker.....Yorkville.
T. S. R. Ward.....Hickory Grove.
W. G. White.....Yorkville.

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1870.....B. W. Taylor.....Columbia.
1871.....T. G. Simons.....Charleston.
1872.....J. C. Spann.....Catchall.
1873.....A. A. Moore.....Camden.
1873.....M. G. Salley.....Pinewood.
1873.....R. L. Brodie.....Charleston.
1874.....W. H. Nardin.....Anderson.
1874.....J. F. Pearce.....Claussens.
1874.....O. B. Mayer.....Newberry.
1875.....T. G. Croft.....Aiken.
1875.....Manning Simons.....Charleston.

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Beaufort.
Berkeley.
Chesterfield.
Clarendon.
Darlington.
Edgefield.
Georgetown.
Horry.
Lancaster.
Laurens.
Newberry.
Orangeburg.
Williamsburg.

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South Carolina Medical Association.

Next Annual Meeting at Columbia, S. C., April 18th, 1906.

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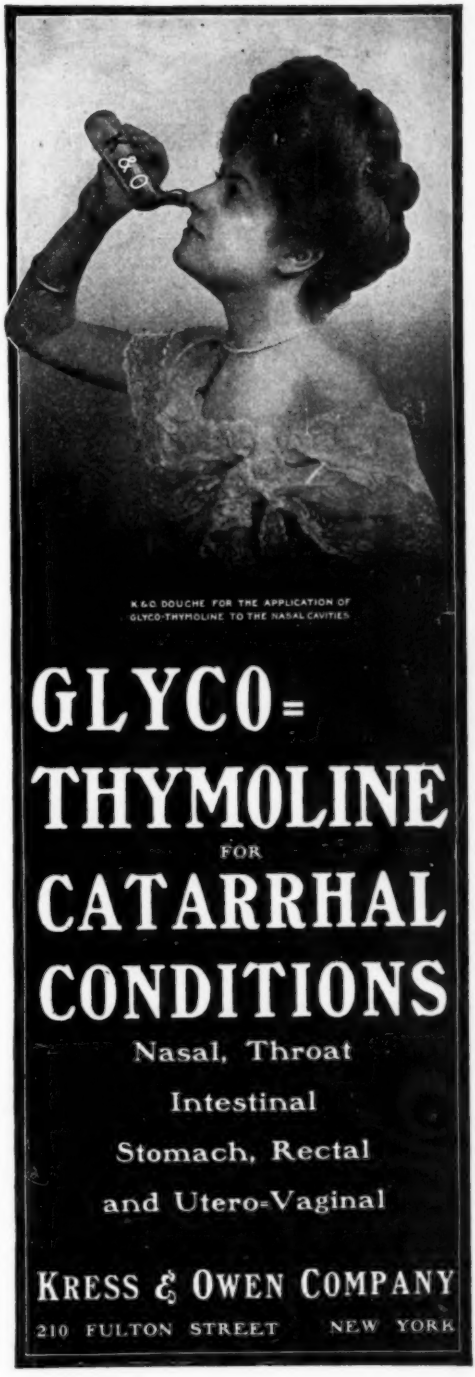

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